Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

SHOUT
SHARE
IT

AD-33 Bookplate
(1-63)

NATIONAL
AGRICULTURAL
LIBRARY

1.9
F76W
v.9

26267
agr
14

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 1.   Washington, D. C.   January 5, 1925.

A HAPPY NEW YEAR

By William B. Greeley

Writing a New Year's message to my fellow members of the Forest Service is somewhat like selecting Christmas greetings for old friends. However you may seek new forms of expression, you cannot get away from the old ideas and sentiments. No one wants to send a Christmas card that does not have some red and green holly on it or a bit of frosty landscape or some other of the familiar pictures which yuletide always brings to mind. And equally is it impossible to wish a happy New Year to the Forest Service except in much the same old way and with the same old terms. These are among the things that we never want changed.

At the conclusion of an inspiring address yesterday morning, Walter Mulford, President of the Society of American Foresters, asked his auditors in lieu of the customary applause to devote a moment to quiet introspection of the challenge to foresters to measure up to the opportunities and ideals of their profession. It was a fine expression of that fine old Quaker belief in the "inner light." And among the ideals emphasized by Walter Mulford were the conception of public service which has always been inherent in forestry and competent workmanship in our particular tasks.

These are the same ideals which have always inspired the Forest Service. It is a good thing to re-emphasize them every year for they never grow stale or threadbare. The more the Forest Service grows and the more its work expands, the more vital do they become. Nineteen twenty-five will witness still further opportunities for translating them into action. The National Forests are constantly bringing new opportunities for public service and greater demands for competent workmanship. We have set high standards in fire control, range management, and timber growing; and no member of the Forest Service will be satisfied if the next year does not bring us closer to them in actual accomplishments. We will launch a redoubled effort with better legislative support and public backing than ever before for extending the forestry idea to all timber-growing land. We are touching more closely the public interest in outdoor recreation and wild life conservation. The field of usefulness of the Forest Service is constantly broadening. No public organization of men and women ever had such an opportunity before. The more clearly we can hold to the twin ideals of public service and competent workmanship, the more splendidly will this opportunity be realized.

We all know that this is the work of an organization, not of individual people; that the accomplishment will be gained by united effort with a common purpose, not by the work of a few. The Service has put another year behind it of whose record we may well be proud. We are going to keep right on. I can never sufficiently express my appreciation of the splendid work which all of you are doing. May your New Year be a happy one, happy in its personal interests, in the sense of achievement, and in the satisfaction which, notwithstanding much real sacrifice, rewards men and women who are doing things worth while.

HALF A LOAF IS BETTER THAN NO LOAF, BUT-

By Thornton T. Munger, Pacific Northwest Exp. Sta.

A full stand of trees is better than half a stand. Yet, how many of our forests are but half stocked or irregularly stocked; here a dense thicket of young trees, and there a blank space; a single open-grown knotty tree where there might be a half dozen thrifty poles; or weed trees occupying the ground that might be filled with desired species. A piece of cut-over land or an old burn may look green and tree clad and goes as "reforesting" or "satisfactory second growth," when perhaps close analysis would show that it wasn't producing either the quality or the quantity it should. Of course it is a lot better to have even such a stand than none at all.

The public and the timber fraternity should be educated to understand that foresters are not satisfied with such half stands as Nature may produce accidentally. To get the maximum quality and quantity of wood crops per acre is where the art of forestry comes in. That is where foresters can "improve on Nature."

Good farmers are not content with fields that have but one spear of grass where there should be two, or with herds whose increase is half of the possible. It is the half crops that fail to pay expenses and only the full crops that yield the dividends.

Just because there are 500 or 1000 little seedlings per acre on a cut-over area or an old burn does not mean that all is well. It is a great satisfaction to find them, but do not forget that it is not 100 per cent good forestry unless they are well spaced, of the right species, are established, and are in number sufficient to yield the maximum wood volume compatible with quality. In selection cuttings in yellow pine are we not prone to look with admiration at the dense clumps of thrifty advance reproduction and overlook the intervening gaps of a quarter acre laid bare by ax, hoof, wheels, or brush pile fires?

The timberman to whom we talk reforestation must realize that if he goes into the game of continuous production he must not be satisfied with half stands and scrub stands of second growth, such as Nature may supply unaided. He must realize that a full stocking of desirable trees means maximum production from the soil.

-------#-------

SAVING AND RENEWING THE REDWOODS

A program for the reforestation of redwood timber in Humboldt County, California, is being actively carried forward under the direction of the Humboldt Redwood Reforestation Association. This association, in connection with the Pacific Lumber Company, maintains a nursery at Scotia, California, embracing an area of five and a half acres devoted to seedbeds, transplant beds, and experimental sections. An interesting feature in connection with the growing of the young trees is the method employed of pruning the roots to make them stocky. A four-foot saw blade attached to a rail spreader drawn by two horses is employed. It is proposed to plant about 500 trees to the acre. A planting policy covering the next four years has been worked out, and the principal species to be grown are redwood, Douglas fir, Port Orford cedar, and Sitka spruce. The planting season is restricted to the winter months.

The Board of Supervisors of Humboldt County has appropriated a fund of $25,000 for the purpose of saving the redwoods. This amount was provided for in the tax levy made by the board for the ensuing year as the beginning of a "Save the Redwoods" fund to be utilized as needed in completing the Redwood Park system in Humboldt County. The county has already appropriated in the past the sum of $85,000 toward saving redwood timber in the Humboldt State Redwood Park. This brings the total sum appropriated by them to over $100,000. This action on the part of Humboldt County comes soon after the formal voting by the Board of Supervisors of Del Norte County to set aside an annual fund for the saving of redwoods along the State highway. A sum of $5,000 was appropriated by them for 1924-25.--The Timberman.

-------#-------

THE MUNICIPAL AUTO CAMP - A NEGLECTED BET

By Jno. D. Guthrie, D-6

During the past fire season an effort was made for the first time in the North Pacific District to reach the user of the municipal camp ground with our fire prevention signs. One "Camp Fire Permits Required" sign and a few of our D-6 cardboard signs were sent, with a State road and recreation map and a special letter, to each of the 100 municipal auto camps in Oregon and the 115 in Washington. In many cases the managers acknowledged the receipt of this material and asked for more of our road and recreation maps.

Do Supervisors and Rangers realize that the municipal camp ground is one spot where a very large percentage of the traveling public can be reached? What is just as important is the fact that the average camper spends at least one night at such a camp and therefore has more time and a far better opportunity to read a forest fire warning than he has while riding through a National Forest, even on one of our 9-foot roads. The chances are that he will read a forest fire sign in a municipal camp and when he sees it again along a road (when he is probably going too fast to make out the wording) he will recognize it and recall, subconsciously maybe, the meaning of it.--

Every field officer in D-6 has been urged to take advantage of the municipal auto camp in his headquarters town by putting up a few fire warnings and furnishing the men in charge with a supply of our road maps and forest folders. You are overlooking a mighty good bet if you haven't. Try it next spring - that's one job for Forest Protection Week that will bring you returns.

--------#-------

PINE LEAF BLANKETS AND BALSAM B. V. DO.

German scientists are reported to have found a way to manufacture material closely resembling wool by chemically treating the leaves of the Scotch pine. It is said that this new substance can be spun, curled, and woven. One of the uses to which it is being put is a stuffing for mattresses. The aromatic odor makes the mattresses insect proof and agreeable and beneficial to sleepers, especially patients in hospitals.

The fir leaves are gathered every second year while they are still green. They are then boiled, and by the use of chemicals the resinous substances are removed from them. The remaining fibers are separated and cleansed of all foreign matter. The result of this process is artificial wool. An oil by-product, differing somewhat from turpentine, but having many of its properties, is also derived.--Penn. Service Letter.

--------#-------

USED YOUR 37 MATCHES TO-DAY?

The United States uses more than 1,500 billion matches made out of wood every year. This is about 37 matches a day for every man, woman and child in the country based on a population of 110 million. Recent statistics from Europe have placed the per capita consumption there at 14 matches a day. The world output costs 200 million dollars and reaches a total of 4,675,650 million matches a year.--The Timberman.

--------#-------

Washington Notes

Release of New Forestry Films: Before our New Year's resolutions are all broken there will be released for showing three new motion pictures gotten out by the Forest Service in cooperation with the Georgia Forestry Association, Florida Forestry Association, and the Conservation Commission of Alabama. The three pictures comprise the SOUTHERN PINE SERIES.

The first is called DUAL PURPOSE TREES, and covers the turpentine operations from the tree to the shipping of the finished product. Into these are woven statistics to show the effect of forest depletion on the industry, and the plea for its preservation through the practice of forestry.

The second picture is titled FROM SEED TO SAWMILL, and covers natural reforestation. Good and bad logging operations, good and bad forestry practice, some statistics on growth, possible profits, and the splendid opportunity for the practice of forestry in the South are shown. The beautiful southern scenes it is hoped will make the picture attractive and mitigate in a measure the dryness of statistics and other necessary matter contained in the film.

The third picture is titled PINES FOR PROFIT, and covers the important subject of planting. Examples of fast and slow growing stands of timber are shown, methods of making the seed bed, planting the seed and seedlings, flashes of areas which contain planted stands of various ages, types of land that should be planted, with many reasons why the planting should be done - winding up with the remedy.

The three pictures have the same theme - "Growing Trees."

It will be possible for those interested to secure the loan of these films for educational purposes. Copies may also be purchased at a price of approximately $40 per reel. DUAL PURPOSE TREES and PINES FOR PROFIT are one-reel pictures of 1,000 feet each. FROM SEED TO SAWMILL is a two-reel picture with 2,000 feet of film.

We hope that much good will come of the wide distribution which these films are sure to get.--H.R.K.

- - - - - - -

Our Own Picture Puzzle: Foresters know the spirits of the woods - but they don't often photograph them. Have you noticed the hidden picture in Figure 1 of the illustration opposite page 8 of the brand new bulletin y-clept "The Role of Fire in the California Pine Forests?" It is called "a hidden fire scar" that picture, but apparently Show and Kotok thought that solving Research problems entitled them to give us a puzzle to solve too. The hidden face glowers at Dunning who has just struck his ax into the tree with a mighty blow that staggered him, or possibly it was the look that threw Dunc off balance. No wonder the successor to Ariel, in that particular tree, showed his gigantic face on the bark, and was caught squarely in front of the camera with his straight-line mouth opposite the hand Dunning used to support himself. What next? Will Form 26 be further complicated by the inclusion of a crossword conundrum?

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

A New Instruction Course is on in District 1. This course is called "Advanced Fire Protection." It is hoped to make it something more than a study course. Rather, it will be a clearing house for ideas on fire practice and technique. Problems will be issued in mimeographed form to the men enrolled in the course. Their replies will be considered, summarized in the District Office, and the summary and possibly some of the replies circulated to the field. By this means each man who takes the course may have some opportunity to teach as well as learn. This scheme for a study course has previously been tried in District 2 with very promising results.--H.R.F.

- - - - - - -

Be Calm, Amigo, Be Calm! According to my best recollection, the pernicious light burning theory and practice had its origin in California. Now a new danger is threatened from the land of climate and movie stars. In the November 17 issue of the SERVICE BULLETIN, some modest Californian gives at great length the number of lines of publicity given to one of their conflagrations of last summer. Is this mighty publicity victory the forerunner of a movement from California to substitute for light burning the heaviest and biggest fires possible for publicity purposes? Shades of G. P., what next?--G.M.B.

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Norway Pine Seed Extraction Completed: A report has just been received from Supervisor Marshall on the extraction of Norway pine seed on the Minnesota Forest which was completed on December 12. A total of 469 pounds of seed was secured from the Forest Service collection. In addition, 124 pounds were secured from a private party for whom seed was extracted on a cooperative basis. He collected the cones which were extracted under Forest Service supervision at the Service seed plant at Cass Lake. The Forest Service retained one pound out of every four pounds extracted to cover the cost of extraction and the use of the plant.

Thus a total of 593 pounds of Norway pine seed, having a value of approximately $6,000 at prevailing commercial rates, was secured. This will be sufficient for the needs of the two Service nurseries in the Lake States for three years. The cost of the seed, including cones, extraction, etc., is $2.17 a pound, which is cheaper than Norway pine seed has ever been extracted on the Minnesota Forest.

This is due mainly to the large yield of seed, amounting to nearly 0.9 of a pound or 14-1/3 ounces to the bushel of cones. This is in marked contrast to yields of 6 to 10 ounces per bushel of cones secured in four previous extractions.

Credit for the high yield of seed must also be given to the seed extractory, which was designed by Mr. Bates of the Fremont Experiment Station and given its first thorough trial this fall. A vertical kiln, twelve trays high, is placed directly over the furnace. A large flue leads directly through the roof from the kiln and insures quick circulation of air. The cones at the bottom open first, and as the bottom trays are removed the other trays are set down one notch. Under this system, it requires about eight hours for a charge of cones to be worked through the kiln. The rated capacity of the kiln is thirty bushels to a charge, but the actual output was but fifty bushels per day.

The plant was run continuously with three eight-hour shifts. An extra man was used on the day shift to help run the cones through the shaker and fanning mill. This was found necessary as the night men did not have time, after moving the 48 trays every hour, to run the shaker and mill. An average heat of 140° to 150° F. was maintained in the kiln and cones were used almost entirely for fuel.

Under the provisions of the Clarke-McNary Law, it is probable that the Forest Service will, as part of its share of the cooperation, collect Norway pine seed for the various States. It has been very difficult to secure seed of this species, and prices as high as $20 a pound have been quoted by seed dealers. It is gratifying to know that the Service now has the facilities for extracting seed in case we are called upon to secure large quantities.

--------#--------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

A New Wrinkle: Supervisor C. B. Arentson of the Cache contributes the following for the good of the cause:

In building a cabin, a cement foundation is always desirable, because it makes the building warmer, keeps out rodents, and preserves the sills from decay. In many cases such foundations cannot be built on account of finances. A satisfactory substitute has been found in corrugated galvanized iron which may be purchased cut to any size. The iron is set down into the soil a few inches and extends up high enough on the base of the building to afford protection to the lower timbers in case it is desirable to bank the earth high around the sides during the winter. Such a foundation adds materially to the warmth of the building, allows banking with earth without causing decay, and keeps out rodents.

- - - - - - -

Saving Money. [illegible] has returned from allotment conferences at Montpelier, Idaho, and Kemmerer, Wyoming, where he states excellent meetings were held. Of special interest was the meeting at Kemmerer, where the supervisor told the District Office representatives right off the bat that the Forest could run on $3,000 a year less than was furnished this year. Mr. Healey, in charge of Operation in Washington, has informed this District that its allotment will probably be reduced $10,000 next year. If other Forests can manage to feel like the Wyoming, there should be little difficulty in making this saving.

-------!-------

DISTRICT 5 - CALIFORNIA DISTRICT

The Red Cross on the Fire Line: "The San Gabriel fire," said an Army officer recently, "was the nearest thing to war that I ever saw." A report recently received from the Los Angeles chapter of the American Red Cross emphasizes the truth of this statement. This report shows that on this big blaze on the Angeles there were employed nine Red Cross first aid workers, six of whom were trained graduate nurses, and that a total of 4,553 treatments were given the men working on the fire line, as follows:

Burns 654, cuts 882, sprains 119, fractures 9, overcome by smoke and heat 70, foot dressings 957, eye treatments 272, colds and sore throats 335, poison oak 435, toothaches 23, together with miscellaneous treatments for ptomaine poisoning, rheumatism, stomach trouble, sick headache, etc.

The total expenditure by the Red Cross at this fire was $1,366, of which amount nearly $600 was for supplies.

On the basis of the experience gained on this fire, a unit of supplies suitable for first-aid stations for 100-men camps, for about a week, has been computed as follows:

2 - [illegible] lb. rolls absorbent cotton
4 doz. gauze bandage 3" x 10 yds.
2 doz. adhesive tape, 2" x 10 yds.
1 pt. liquid petrolatum
1 pt. peroxide
1 pt. iodine
1 pt. sat. sol. boric acid
1 qt. sugar of lead solution
  (for poison oak application)
1 oz. aromatic spirits of ammonia
1 oz. argyrol (10% sol. for eyes)
1 oz. oil of cloves
1 bottle aspirin (100 tablets)

1 bottle quinine (100 2 gr. tablets)
1 bottle C.C. pills (100 pills)
2 pt. cans antipyrexol
  (preferred to unguentine)
1 bottle sulpho-napthol
1 box wood applicators
1 box tongue blades
1 snake-bite outfit
2 medicine droppers
2 eye cups
1 Red Cross first-aid kit
1 Red Cross flag, arm band, record
  forms, etc.

- - - - - - -

Forestry Exhibit at Oroville Orange Show: Forest Rangers Merrill and Hayes of the Lassen Forest and State Ranger Holland of Oroville arranged a forestry exhibit at the recent Oroville orange and olive exhibition. The setting was that of a Forest Guard's camp with a birch tent, rock fireplace, camp outfit and cooking utensils arranged in a forest of green trees. A pole corral with a gate, a portable telephone and suitable Forest and fire signs made up the balance of the attractive exhibit. The materials used were obtained and the details of the camp scene worked out by the Federal and State officers. Many favorable comments were heard on the artistic display and the message it conveyed. Ranger Holland, who spent considerable time at the exhibit booth, reports that 1,980 people stopped to look at the camp scene, 490 asked questions, and 700 pieces of literature were distributed to interested people.

This exhibit was an excellent example of what local Forest officers can do when they have the will to put across some of the big things in forestry and fire prevention through the medium of displays.

- - - - - - -

DISTRICT 6 - NORTH PACIFIC DISTRICT

Seventy-seven Logs to the Car: Time was when a load for a logging car in the Douglas fir region consisted of not over ten logs; more often six, three, or even one huge log made a load. As better utilization is practiced the number of logs per car increases. Recently the Crown-Willamette Pulp and Paper Company put 77 hemlock logs on a car. This was on their "relogging" operation in the lower Columbia River region. Here the original stand consisted of scattered big fir and spruces and a lot of all sizes of hemlock. Everything that could be handled profitably with big donkeys and the high lead system was taken out, but considerable small hemlock was left, both standing and down.

The company, appreciating that full utilization of the forest was not being made, has worked out a method of salvaging the small stuff. They are following up the original logging with a Lidgerwood sky-line skidder, which is bringing in the little hemlock trees, tops and small pieces of spruce, six at a time. These are loaded into specially constructed cars and average 30 or 35 pieces per car. This means that pieces down to 6 and even 4 inches in the top are used. This once-logged land is yielding 10,000 feet per acre - quite a crop in itself. The material is rafted and goes to the paper mills and makes as good paper as any timber; in fact, it has advantages from the papermaker's viewpoint.

The areas so relogged are much improved from a fire protective standpoint. The equivalent of 20 cords of combustible material is removed, the little hemlocks are down, the fine debris is mashed up still finer. This is good fire protection, good conservation, good forestry.

- - - - - - -

P. I. L. E. Exhibit: The Department exhibit at the recent Pacific International Livestock Exposition, Portland, attracted a great deal of attention. There was an attendance of over 100,000. The material was entirely new for this District and was in two parts. The first was a western range exhibit of five booths devoted to Range Nutrition, Successful Dairying, Range Cattle, Range Sheep and Rodent Control. The second part consisted of three booths, devoted respectively to Summer Playgrounds (Forest Service) Costs of Roads - Good and Bad (Bureau of Public Roads); and Predatory Animals (Biological Survey). There were, in addition to the exhibit, special models showing methods of trapping rodents, and a grain cleaning machine, demonstrated by the Bureau of Agricultural Economics.

MORE "PIUTE" FORESTRY

In "Report upon Forestry" by F. B. Hough in 1882, which is a report on his studies in the West made to the United States Department of Agriculture, I find the following account by William Phillips, a pioneer of Clackamas, Oregon:

"When I came to this country in 1846, it was almost perfect in all its wildness. With a few exceptions, not a tree or a shrub had been touched by the hand of man. Thousands of wild Indians roved over the prairies or hunted game in the almost impenetrable forests. No fires had run in these forests for hundreds of years, the Indians being careful not to let fire get out, lest the grass should be burned from their horses, of which they had thousands, or lest the game should be driven from the forest in their section of the country. Large trees, 3 or 4 feet in diameter, stood in these forests, with the accumulated debris of hundreds of years lying thick around their base, with not a sign of fire about them. But early in the summer of 1847, when the immigrants, who had set out to seek homesteads for themselves began to arrive, fires got started in the forests, and the summer being dry they burned through the whole summer. Millions of acres of as fine forest timber as can be found on earth today were burned over and killed. Whole forests of red and yellow fir, of the giant arbor-vitae, and of hemlock and tamarack were destroyed by these raging fires. The smoke was so thick that we could scarcely see the sun at midday, and people complained of sore eyes and oppressed breathing. The ashes carried by the winds became a nuisance in and about our houses. But at length the fall rains came, put out the fires and drove away the smoke, so that the people could breath freely again, and get a view of the country, and of the ruins of the forests which had been her greatest boast. A million of dollars would not repair the damages done by fire during that season."--L.A.B.

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 2. Washington, D. C. January 12, 1925.

WAR AND FIRE

By I. F. Eldredge, Washington

I know that for the last five or six years it has been the fashion for Forest Service men who gained a smattering of military training during the late war to drag the army into the conversation whenever the always interesting topic "How to better the Service" is up for discussion. I know also that this has been overdone to the point that the favorite rejoinder to this line of talk is "Well, thank God we are not in the army anyway." Nevertheless, I make bold to present here what I believe is an opportunity to adapt to our own uses a method of training that all modern armies have been using for twenty years or more with success.

However much the Forest Service may differ from the military services in make-up, in viewpoint and in practice, there is at least one thing that is had in common, and that is the need for men who in time of pressing emergency can be depended upon to do the right thing with promptness and certainty. I am told that all too frequently studies of our more disastrous fires disclose that small fires turned into big ones because of some omission of a simple but vital step in the progress of the fight to control it. I am also told that such sins of omission are not confined to green, inexperienced men, but are not uncommon with men of more or less experience in fire control work; that in the rush and excitement, men's minds do not function always with success.

In the army bitter experience in active campaigns has taught the same lesson. To overcome this perfectly natural weakness of the human mind the army has developed a line of training in peace time devised to develop an officer's power of constructive thinking so intensively that in time of emergency he may possess the ability to form a judgment in tactical matters and take the proper action with decision.

In this training the use of map problems plays a considerable part. The student officer is given a topographic map of the field of action on which covers all that is known of the terrain, including roads, railroads, bridges, trails, fords, towns, farms, fields, forests, telephone lines, etc., etc. In addition, he is given a written description of the situation in which he is supplied with all of the information other than that shown on the map concerning the number, class, equipment and location of the troops of his side that are involved in the problem, the material at his disposal, the weather, the time, and other factors that affect his problem. He is also given such fragmentary information of the enemy forces as he may be expected to have under the circumstances. This information, with that shown on the map, constitutes all that he knows of the layout.

Next he is given the mission, that is, the thing that he is to accomplish with his particular unit.

Finally, he is asked for his decision. What action would he take or direct to be taken to best achieve the mission of his force under the circumstances as he appraises them? Map problems as used in military training cover all phases of military operations, from the movements of whole armies, involving engineering and supply operations of enormous magnitude and requiring months of hard work on the part of many men to solve, down to the disposal and handling of an outpost of three or four men under charge of a corporal. But in all of them the student is required to go through the same general process, namely, to carefully consider all the factors involved, weighing and analyzing the effect of each factor on the job in hand, and to come to a decision as to what to do to gain his objective.

It has been found and proved that this form of mental exercise develops a capacity for estimating situations with assurance and speed and the ability to make decisions well grounded and promptly.

I feel confident that an adaptation of the map problem method of mental exercise can serve a good end in our fire control work. It is freely admitted that actual experience in fire control is the best teacher, but at that there may be something of value in this method. To give some idea of how the map problem would be used in developing that constructive thought so desired, I have prepared a simple map problem involving a situation not at all uncommon in the National Forests. A careful reading of this problem will, I believe, disclose that in the first place, it is interesting work to solve it, and in the second place, that it will require considerable thought of a constructive nature to get the best possible solution.

If it is conceded that the map problem method carries some possibilities in our work, the opportunity for introducing its use in the Service is excellent, because the very nature of the problems makes them interesting, and gives a chance for healthy rivalry in their solution between individuals and Forests. It would not be difficult, in our field force at least, to supplant the now popular crossword puzzle with the fire control problem.

The map and problem will be published next week.

-------#-------

STRIKING INCREASE IN THE LUMBER CUT

By R. V. Reynolds, Washington

On December 15 the Bureau of the Census released a preliminary statement showing the results of the lumber census for 1923, compiled in cooperation with the Forest Service. The canvass in all western States was carried on by the District offices.

The total cut of 37,165,540,000 feet B.M. is the largest recorded since 1916, and serves as one of the evidences of the return of prosperous conditions following the World War.

United States per capita consumption of lumber, which decreased to 245 feet in 1921, is computed as 330 feet in 1923, an increase of 35 per cent. The increase of consumption was by no means evenly distributed over the United States. Among the nine States showing actual decreases are North Dakota, South Dakota, Nebraska, Colorado, Oklahoma, and Wisconsin. South Carolina, the State of lowest per capita, decreased still further according to our distribution figures. The great States of the industrial region show moderate increases. The most striking increases appear on the Pacific Coast, where Oregon, Washington, and California together consumed 28 per cent more than in 1922. Their consumption was nearly one-fifth of the amount used in the United States.

The consumption of California is the peak of record for any State, being 4,289,000,000 feet, or practically one-eighth of the total lumber used. Of the lumber consumed in California about one-third was cut within the State, while practically all the remainder came from Washington and Oregon.

-------+-------

SALES TALKS

By Geo. E. Griffith, D-6

A young man was successfully engaged in selling a certain article direct to users. He worked on a commission basis and was naturally interested in making a sale whenever possible. He had an outline of selling points carefully worked out and memorized. This outline covered the merits of the article, interesting facts about it, and reasons why it would be valuable to each class of people the salesman might meet. The outline was not just committed to memory and used, parrot fashion; it was used rather as a background from which points could be selected and fitted unobtrusively into a conversation. Many an otherwise aimless conversation in hotels and on trains was, by this means, diverted into a constructive sales talk - with resulting profit to both parties, since the article sold was a desirable and useful one.

Every forest officer is a salesman. He may not be working on a commission basis, but his future success and the progress of his chosen line of work depend upon support and cooperation of the public. Forestry extension, fire prevention, favorable legislation, and appropriations all depend upon favorable public sentiment; and public sentiment is definitely molded by the use of salesmanship methods. Direct sales contact work in the smaller communities is particularly important, for the opinion of a citizen in a small community often carries more weight than that of a citizen in some crowded, far-away city. The "key men" are more accessible.

Many foresters use salesmanship methods - some consciously - more, probably, unconsciously; but everyone who has any contact with the public will, I believe, profit by definitely setting down on paper a sales talk outline. This should consist of: (a) objectives, or points to be "sold"; (b) interesting facts and figures about forestry, both nation-wide and local; (c) ways in which forestry "ties in" with various lines of business and individual, local, or national welfare. Once the outline is prepared, it can easily be revised and kept up to date as new facts or figures become available.

Preparing and becoming familiar with such an outline will at least accomplish two things. It will focus and clear the mind on several important points; and it will give a background for many an interesting and profitable conversation. This does not mean that one should become a monotonous bore, or "talk shop" on every social occasion. On the other hand, the public is becoming more and more interested in forestry, and a well-organized stock of information will often prove an asset. Certainly good taste permits, and good business judgment demands, informing tourists and forest users as to what forestry means, why the National Forests are established, and how they should be protected. Your listener will appreciate the information, particularly if you can show him how it benefits him. You have no dotted line for his signature, but you may secure his support for your objectives.

And maybe - who knows - after experience in successfully selling forestry to individuals by the use of sales talk outlines, you may in time mount the platform and make a sale of forestry ideas to an assembled audience of individuals. The principle is the same.

-------#-------

TWO NEW DISTRICT FORESTERS

With the New Year Chris Granger, long a prominent figure in D-2's song and story, takes up the duties of District Forester in D-6. The District Chief of Operation's desk which Granger vacates will be filled by C. J. Stahl, formerly Chief of Lands in Denver.

Evan Kelley, Inspector in the Washington office of Operation, succeeds F. W. Reed as District Forester of the Eastern District. Unfinished business in the Forester's office will delay Major Kelley in taking over the duties of his new post until February 1. His successor has not yet been announced.

-------#-------

ANOTHER FORESTRY ARGUMENT

According to Charles C. Deam, State Forester of Indiana, farmers are each year learning more appreciation of the value of a woodlot. Real estate men with wide experience in selling farmlands say that a woodlot adds from ten to fifteen per cent to the value of any farm. A woodlot means cheap fuel that never fails and that is worth many dollars annually to the possessor. If the lot contains numerous sugar maple trees, then the owner can derive many dollars each year from the sirup they yield. This same woodlot provides posts and poles so essential for farm fences, acts as a windbreak sheltering his home in times of high winds, is a sanctuary for birds that help destroy insect enemies of his crops.--Southern Lumberman.

-------#-------

WASHINGTON NOTES

Pictures Ahead! During 1924, 715 photographs were added to the Washington collection. Nine thousand six hundred and forty-six were reviewed. The small percentage selected for the collection by no means indicates that the need is not great for additional pictures. Far from it. The need, however, lies along the lines of illustrations of Forest Service activities and National Forest resources. Especially great is the need for photographs of individual trees.

- - - - - - -

A Strange Transformation: When Preston wrote "The Sick Sawmill Man and the Forestry Doctor" for the American Lumberman little did he reck that he would qualify as a tree doctor. But recently a letter was received asking for a copy of his article, which the correspondent called "The Sick Tree Killed and the Forest Tree Doctor." Shades of the Davey Tree Experts!--[illegible].

- - - - - - -

Red Cross Subscriptions: During 1924 members of the Washington office subscribed $125 to the Red Cross fund.

-------#-------

FOREST PRODUCTS LABORATORY

Better Crates: Forty styles of cabbage crates, 30 varieties of lettuce crates, 25 different kinds of celery crates, and 15 styles and sizes of round-stave baskets illustrate the universal use of wooden crates. More than 118,000,000 crates were shipped over American railways in 1923, and more than four and one-half billion board feet of lumber are used annually in the manufacture of boxes and crates.

It is estimated that losses in failures of crates during shipment now cost the railroads in the United States not less than $3,800,000; and this includes only claims actually paid.

Great as these losses are, improved crating methods through better nailing, better design, and improved packing methods have done much to reduce losses. A large share of the saving as well as a reduction in size of crate members has been possible through the 3-way corner construction and diagonal bracing.

- - - - - - -

"Gazogene" a French motor fuel: "Gazogene," which "was recognized by all the spectators as pleasing in aspect, easy to employ and remarkable in its simplicity," according to French journals, is described in a report by the American Consul at Paris.

The new motive power is a gaseous mixture obtained from charcoal and is expected to supplant gasoline, of which France imported 728,000 tons during 1923.

The charcoal fuel reduces the cost of power generation from 40 francs to five francs and is said to have many other advantages.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Aim Accurately and Avoid Accident: A summary of the reports on injuries submitted from the District to the U. S. Employees' Compensation Commission during the period January 1, 1924, to September 25, 1924, has been prepared and classified as follows:

Ax cuts, feet and legs	40
" " hands and upper body	9
Saw cuts	5
Hernia or strains from lifting	19
Miscellaneous cuts, breaks and bruises from association with horses and mules	20
Injuries to eyes	5

Occupational disease	5
Food poisoning	5
Infection from wood tick bites	2
Infection from poison ivy	1
Burns to feet on fire line	1
Miscellaneous cuts, sprains, breaks and bruises from all other causes	52
Total	164

- - - - - - - -

Broadcasting: One cartoon on Forest Protection Week was displayed in 73 theaters in District 1, reaching approximately 70,000 patrons. The same cartoon strip was used by 170 daily and weekly newspapers having a paid circulation of 150,000. Estimating that 2 persons read each paper, 300,000 persons were reached. It is estimated that this one cartoon in this and other Districts carried its message to at least 500,000 people.

- - - - - - - -

The Office of Products in Missoula received a request by telephone from an Eastern Washington Lumber Company for information on which to adjust a complaint of a customer. Six carloads of shop were involved, filling an order from an eastern concern which specified air dry stock. Shipment was made from lumber piled prior to July 1, 1923, which had remained in pile until the date of shipment in January. The customer claimed the lumber was not air dry, and that it had a moisture content of from fifteen to eighteen per cent. From information as a result of studies by the Office of Products, the company was able to make proper adjustment of the claim.

--------#--------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Sentiment and Sense: A lopsided Christmas tree was considered an ornament to any Denver home this Christmas. The Chamber of Commerce, the local service clubs, and other organizations were vitally interested in the attempt to stop vandalism in the mountain parks and the destruction of perfect timber for holiday purposes. Thoughtful citizens, therefore, were urged to purchase only those trees bearing tags issued by the city or the Forest Service, indicating that they had been cut with official sanction.

"With those buyers who wish to further the cause of timber conservation," stated the Rocky Mt. News of Denver, "the lopsided tree will be in favor because neither the city nor the Forest Service will authorize the cutting of finely shaped trees except, possibly, in isolated instances. Christmas trees are used for a short time and for such sentimental reasons that it is a crime against common sense to scrifice fine, growing timber for such a fleeting purpose.

"The Christmas tree is a firmly established institution and in urging people to select the less symmetrically formed trees the backers of this conservation program are not trying to discourage a traditional and beautiful custom. A certain amount of timber needs cutting each year in the mountain parks and forest reservations and plenty of trees are always available for the Christmas festivities. These may not be models of perfect beauty and form, but they are more than satisfactory for the display of candles and ornaments, or for decorative uses. By demanding them when they make purchases the people can discourage the reckless waste of healthy, needed evergreens and firs."

- - - - - - -

Foresters of D-2 are Requisitioning 10,509,000 Fish from the Federal Hatcheries for the 1925 distribution. The species and numbers of each are as follows:

Black-spotted trout	5,000,000
Rainbow "	1,920,000
Eastern brook "	2,879,000
Large-mouthed bass	10,000
Wall-eyed pike	200,000
Perch	200,000
Black bass	200,000
Bullheads	100,000
	10,509,000

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Train Service Discontinued on Crown King Railroad: The Santa Fe Railway Company has created a sensation in the region of the Prescott by discontinuing trains on the Prescott-Crown King branch. This piece of railroad was built in the early days for carrying out ore when Arizona mines were booming. It has served as a common carrier through times that have been both prosperous and lean. Its usefulness, however, has probably not been fully realized until now, when the locomotive whistle is no longer heard echoing through the canyons. Supervisor Wales says the cutting off of trains will cost the Prescott $150 a year in forage transportation alone. The general distress that is predicted may, of course, not be so serious as is anticipated. Undoubtedly, the situation will adjust itself in part at least through improved highways and motor transports. It is quite possible that such trails as the famous old Phoenix-Prescott stage route through Crook Canyon and Battle Flat will come back with reopenings of the storied stage stations. In fact, portions of the historic stage route, which follows the backbone of the mountain for miles and presents remarkable scenery, are already being used by automobilists.

- - - - - - -

Association with Forest Officers Brings Man a Beating: The Lincoln Bulletin recounts incidents connected with grazing trespass cases in which Government witness suffers for his knowledge. For some time the Lincoln has had trespass difficulties with one S. S. Tidwell. A man by the name of A. W. Boyce, Jr., is the principal witness for the Government. Recently three men, one of them Tidwell, met Boyce who was driving alone. Boyce was thrown from the rig and severely beaten. He was then informed by Tidwell that if he didn't leave the section immediately and stop associating with Forest officers there was worse treatment in store for him. In addition to the trespass cases pending against Tidwell, he is under bond to appear before State and Federal grand juries for investigations touching other offenses.

- - - - - - - -

Cooley Mill Changes Hands: According to press reports the purchase of the Apache Lumber Company operating at Cooley by the W. M. Cady Lumber Company has been consummated. This deal included also the Apache Railway. The consideration is said to be three million dollars. The W. M. Cady Lumber Company has been operating for some years at McNary, Louisiana, but will cut out there within a few months and has been looking for new fields. It is the plan of the company to increase the yearly output at the plant at Cooley from 80 to 100 million feet. This will mean considerable additional investment, speeding up the cut under present contracts, and promises to enable the Forest Service to initiate cutting on a large scale on the Mogollon Working Circle, which comprises the western end of the Sitgreaves Forest. It is estimated that this working circle will furnish an annual cut of 30 million feet on a permanent basis. Forest Service engineers will have a big job next year in handling the new problems which will come up with this new aspect of operations on the Sitgreaves and possibly the Apache Forest. As a matter of further interest, it is reported that the town of Cooley will be changed to McNary in order to retain the good will that goes with the name, which has been built up by the W. M. Cady Lumber Company through its years of successful operation at McNary, Louisiana.

- - - - - - - - - - - - - -

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Back from Convention: Messrs. Ernest Winkler and C. L. Forsling are back from the convention of the Nevada Land and Livestock Convention held at Elko, Nevada. They report that it was an extremely interesting and significant meeting. The most important matter brought out was the general feeling that the whole public land policy of the United States needed a thorough overhauling, especially so that the range live stock industry might be put on its feet. Opposition to the Forest Service and increased fees appeared to be largely tied up in this general problem of the management of the public domain as a whole. There are evidences that something will be done toward the solution of this problem in the not far distant [illegible], as a committee of western extension men representing the association of land grant colleges presented a memorandum to President Coolidge last month asking for a thorough investigation of the public domain problems. It is believed that the President is favorably inclined toward such an investigation.

- - - - - - -

A Bit Chilly: Mr. C. W. Ferguson has returned from a series of conferences held at the headquarters of the southern Idaho and western Wyoming Forests, to discuss road and trail matters for next year. When he left Jackson Hole the thermometer ranged from 50 to 52 degrees below zero. Cheer up, boys, the air does not turn to liquid until 297 degrees below zero is reached.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Charles Howard Shinn (An appreciation)

After seventy odd years of happy life, Charles Howard Shinn has crossed the Great Divide.

Never again will he look with misty eyes upon the snowcapped peaks and quiet valleys, the forests, the birds, and the flowers he loved so well.

'Peace Cabin' will know him no more, and the kindly Cedar at the door, whose sprays of evergreen carried a message of hope and cheer to countless thousands throughout the world, will never again bow to his gentle touch.

But the message of the forests and the great outdoors that flowed from his magic pen has traveled far afield. To quiet hamlets and busy cities it has carried the breath of the mountains and an inspired plea for the preservation of those wonders which God hath wrought.

His name will ever be emblazoned on the Honor Roll of those who have fought a good fight that our children and our children's children may know something of the unspoiled beauties of forests and hills.

And we, his friends - how we shall miss him! Miss his kindly spirit, his love for all things great and small, and that beauty of life and character that made him a man among men.

This old world would be a hard world indeed to live in were it not for the friendship, and love, and inspiration of suck men as Charles Howard Shinn.
--Wallace Hutchinson.

- - - - - - -

Southern California Board of Fire Review Completes Work: The special Board of Fire Review for Southern California, appointed by Col. W. B. Greeley to investigate the San Gabriel fire and work out a better system of fire protection for the Angeles National Forest, completed its work on December 13 and forwarded the final report to the Forester for approval. The board was in session for four weeks in Los Angeles, San Bernardino, and Monrovia, and examined a total of 80 witnesses. Among the outstanding recommendations of the board were: a more adequate system of trails, roads, and firebreaks for the Angeles Forest; closer cooperation between Federal, State, and county forestry forces in fire prevention and suppression activities; elimination from the Angeles of a strip of patented and Indian Reservation land lying along the south boundary of the Forest; the division of the Angeles into two Forests and the creation of a new Forest to be known as the San Bernardino National Forest; the addition to the western division of the present Angeles Forest of a major portion of the National Forest lands in Los Angeles County now within the Santa Barbara National Forest.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Stamp Your Property: Here's a true incident from the Umatilla Forest. About 10 years ago a Mr. Albert Peterson of Ukiah, who was then engaged as a Biological Survey trapper, had some traps stolen, no trace of which could be found anywhere. Seven years ago a cabin (which was inhabited by a man who has since left these parts) burned down. During the past summer, Mr. Peterson while casually riding through the mountains came upon this spot and with a friend was looking about the old ruins when he suddenly discovered some traps. Upon a close examination he found that they bore the steel die stamp of the Biological Survey, showing clearly the Government ownership of the traps, thus clearing up the mystery of who stole the traps a good many years ago. The point is that we should all see to it that our Forest Service property is properly stamped, or stencilled, for the purpose of showing ownership.

- - - - - - -

International Monuments not in Agreement with 49th Parallel: Contrary to common belief, the monuments along the boundary between the State of Washington and Canada are not in all cases on the 49th parallel of latitude. Some are located north of the parallel and some south of it as much as 400 feet. These discrepancies have, of course, been discovered before, but they came to the attention of the Portland District Office through the drainage survey that was being made on the Chelan Forest last summer.

----- - - - -

In His Honor: The following is an extract from the official minutes of a recent meeting of the U. S. Board of Maps and Surveys, Washington, D. C., the final and official word on names for topographic features on the National Forests:

> "Taylor; ridge T. 38 N., R. 35 E., Colville National Forest, Ferry County, Washington. (Not Big Boulder.) After Forest Ranger Norman E. Taylor, who died Feb. 9, 1924, as a result of being gassed in the World War."

DISTRICT 7 - EASTERN DISTRICT

District Forester Kelley: Elsewhere in this issue is noted the assignment of Evan W. Kelley as our new District Forester. The District cordially welcomes its new leader.

- - - - - - - -

Extension of Forestry Practice to the Arkansas holdings of the Dierks Lumber and Coal Company has become an immediate prospect which is being actively furthered by the Arkansas National Forest force. Representatives of the company have recently devoted considerable study to our local management methods and practices and the company will shortly adopt some of them. While less merchantable timber will be left under the company operations than on our sale areas, all diseased and defective timber will be removed, brush will be piled and burned, and a nucleus left for a second cut in about 60 years.

- - - - - - - -

Boll Weevil Cuts Shortleaf Stumpage: Lured by high wages and the promise of better days, the negro labor of South Carolina and north Georgia cotton fields goes North by the thousand.

The boll weevil meanwhile works destruction to the cotton on the western edge of the Piedmont Plateau.

The chill of one or two northern winters causes the return of the negro labor, only to find but little cotton to pick. Lean days for labor and the cotton planter, as he turns to the abandoned fields of thirty or forty years ago and begins to harvest second growth pine with the cheapest labor ever turned loose in a logging operation - labor that is glad to work for a corn bread ticket. All of this causes the price of pine stumpage on the Nantahala Forest to be severely cut, and literally the boll weevil is the underlying cause.--H.C.S.

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 3. Washington, D. C. January 19, 1925.

MORE ABOUT ROADSIDE FORESTRY

By Fred Morrell, D-1

Possibly there is room in the SERVICE BULLETIN for some further discussion of the subject opened by Preston in the Washington Service Committee meeting of November 26.

Of course, no one would dispute the statement that trees are desirable along a roadside, or that small trees cannot always take the place of big ones for this purpose. I agree that we should leave roadsides in the National Forests attractive, but in adopting such a policy we should not close our eyes to the fact that there is a certain disadvantage and a certain danger in it. I agree with Headley that recreation interests are a definite menace to the practice of forestry. To my mind the answer is not to be found in trying to discourage recreation but in recognizing the danger and trying to meet it. That a great many people do not understand that leaving a tree after it is commercially mature is not (economic) conservation, but the opposite, there is no doubt. Neither, it seems to me, can there be any doubt but that as time goes on there will be much misunderstanding because of leaving roadside strips, unless we can find ways to inform the public on the point. Most people who go into National Forests travel in automobiles. They see what is along the road. They say "This is Forestry as the U. S. Forest Service practices it," and having seen "Forestry" there and having liked it, they object to "devastation" when they see timber sale areas.

Mr. Norcross is quoted as saying "If they want to see samples of Forestry in practice we can take them to certain spots." But it isn't what they want to see, but what we want them to see. We'd like for them to get some glimmering of what Forestry practice consists of, so that as our cut increases and as tourists increase and roads and trails on which they can travel increase, till they will be going about all through our sale areas, they won't rise up in their wrath and say "We've been betrayed" or demand that all the additional areas they see be made to look like those along the roadsides. How we are going to meet the problem I don't know, but we can't do it by flagging down every motorist on the Yellowstone Trail, for example, and saying politely, "Now, Mr. Pierpont," or "Henry," as the case may be, "All this Forestry you've seen along the road is park forestry, but if you'd like to see some timber production forestry turn to your right just after you cross Skunk Creek and continue thence nine miles in a northerly direction." I'm fairly certain. We've got to find some way to get people to learn the truth about some of our work, and Mr. Preston, being a good forester and doubtless seeing what some of us think is danger ahead, would like to get more forestry practice where it can be seen. Most of us wouldn't want to go to the extreme he suggests, but we can't get away from the fact that in not doing it we are losing our best opportunity and giving wrong impressions to boot.

And before I close I want to take one more rap at those people who believe that in order to get our names in the paper we should present material that is not the usual but the unique thing. For example, not so many months ago a Forest Service man said to me, "We can't get any good timber sale pictures." Thinking that District One could, as usual, supply any need, I said, "Why, we have lots of them in the collection - good pictures of well-conducted sales." But they wouldn't do! What were wanted were some more like the Old Black Hills picture. Now, I've spent a good many days in the Black Hills and have seen there some fine-looking sale areas, but never happened to come across one that looked like that picture. About sixteen years ago I saw it reproduced in a magazine with the statement that it was a forest scene in Germany. That nettled me at the time, but since then I've traveled around more in the timber sale world and have sometimes even wondered whether the author might not after all have gotten his films mixed and put an American label on a "made in Germany" product. Anyway, thousands and thousands of people have seen it and, if they only realized it, know how a timber sale area on a National Forest doesn't look.

Maybe there aren't any possibilities in Preston's suggestions. If not, let's heave 'em overboard. But when we've done that we really should look around for an alternative.

WHY THE FOREST ASSISTANT RESIGNED

A new Forest Assistant, on leaving for his first inspection trip, was told by his Supervisor to keep him posted.

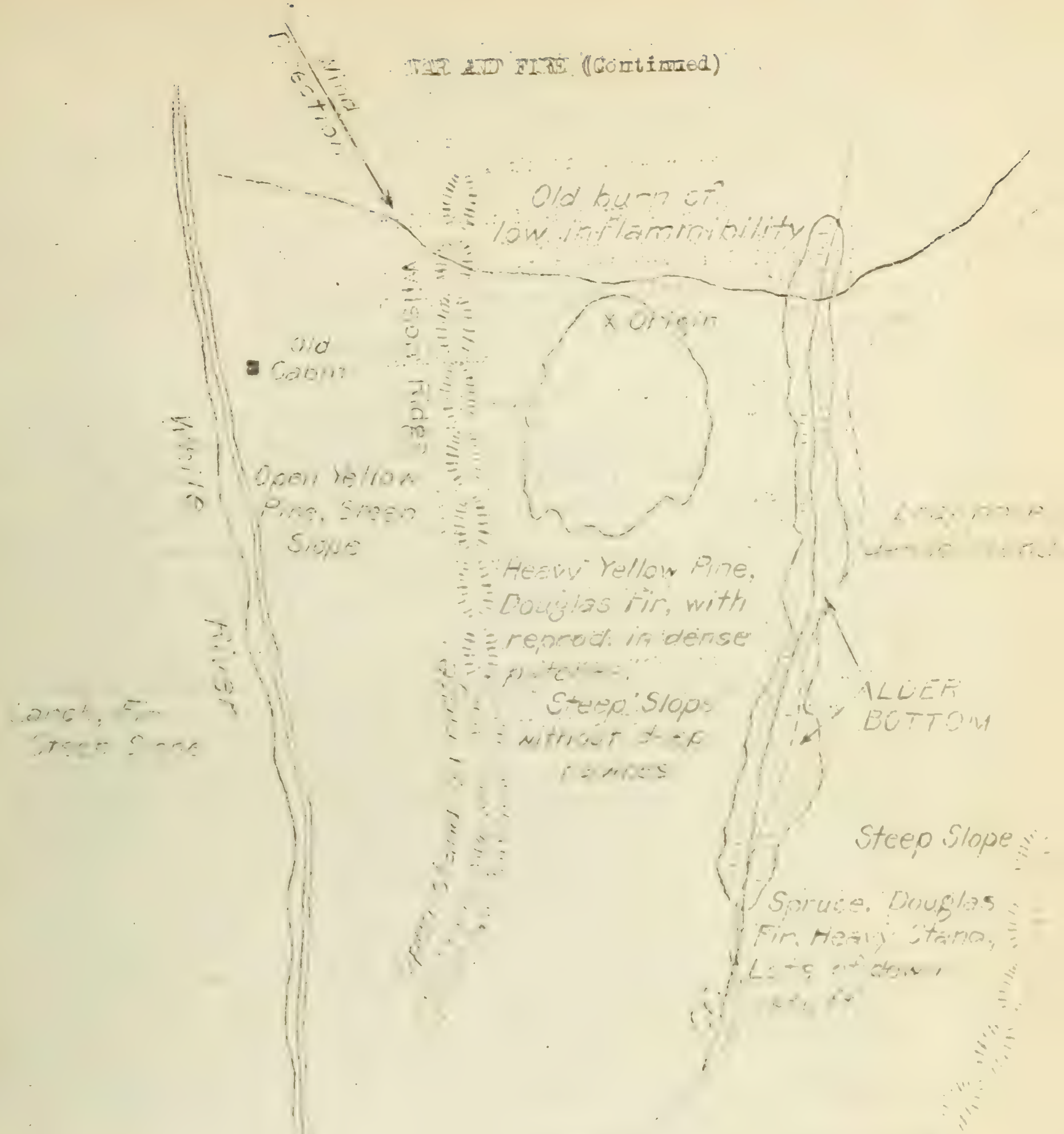
"Wire me anything I should know," he said.

The following day the Supervisor received this wire: "Arrived safely. Have lovely room at Paradise Inn. Weather fine. Good shows in town.."

This was the irate Supervisor's reply: "Wire received. So glad. Take long vacation. Love and kisses."

-------#-------

WAR AND FIRE (Continued)


Wind Direction
Old burn of low inflammibility
X Origin
Old Cabin
Wilson Ridge
White River
Open Yellow Pine, Steep Slope
Heavy Yellow Pine, Douglas Fir, with reprod. in dense patches.
Steep Slops without steep ravines
Larch, Fir Steep Slope
ALDER BOTTOM
Steep Slope
Spruce, Douglas Fir, Heavy Stand, Lots of down
1 MILE

The following is the fire problem illustrating Eldredge's article in last week's SERVICE BULLETIN. The situation is fully set out and there are no traps or catch questions in it. The purpose is to illustrate a possible method of studying fire suppression in a way which will be interesting as well as useful.

What is your solution of Eldredge's problem? Either individuals or groups may send in their solutions, the best and most interesting of which will be published in later issues. Be brief, concise, and clear. A year's subscription for the best solution.

The Situation

At 7 a. m. August 4, a lookout locates and reports a heavy smoke rising from the head of Smokehouse Creek on the east slope of Wilson Ridge. Ranger Brown dispatches a fireman with one assistant to the fire and gets ready for action. He has two road crews of 10 men each, two large trucks, and a sawmill and logging crew of 30 men two hours travel distance from the fire. They will have to be furnished transportation. He has available a 50-man fire tool outfit and plenty of food supplies. No pack stock available.

10.00 a. m. Fireman reports by phone from Hostetter Bridge that fire is too big for him, is spreading rapidly and running southeast before a rising wind. He advises bringing all men available. He is told to return to the fire, scout out the situation, and meet the Ranger and crew at Hostetter Bridge at noon with full report. The Ranger notifies sawmill of situation and asks that full crew be assembled ready to go to fire if needed. Will phone from Hostetter. Takes road crews, tools, food for 40 man days, and two trucks, and starts for the fire.

12.00 M. Ranger with road crew arrives at Hostetter Bridge. Gets fireman's report, discusses situation briefly and establishes it to be as shown on accompanying map. The wind is from the northwest, picking up and gusty; 20 to 25 miles per hour; humidity low. East slope of Wilson Ridge has heavy duff, dense underbrush, lots of down timber, and some rock, mostly outcropping ledges near the top. The Ranger feeds men from emergency ration at the bridge, and having made his decision puts them to work.

Objective

To control fire with force available in shortest possible time.

Required

Ranger Brown's decision as to

1. Plan of immediate attack on fire.
2. Organization of force and disposition of crews.
3. Instructions to foreman.
4. Arrangements for supply.

-------#-------

ROAD AND TRAIL CONSTRUCTION

By G. H. Lautz, Washington

During the fiscal year 1923, the Bureau of Public Roads constructed a total of 374 miles of so-called major road projects at a cost of $11,304 per mile. The Forest Service during the same period built and improved 1,656 miles of minor road projects at an average cost of $890 per mile.

Average construction costs during the fiscal year 1924 showed an increase over those for the preceding year for both major and minor roads. In 1924, 543 miles of major road projects were constructed by the Bureau of Public Roads for $7,208,217, representing an average cost of $13,280 per mile. On the other hand, $1,759,630 was expended in the construction and improvement of 1,314 miles of minor roads under the supervision of the Forest Service, at an average of $1,339 per mile.

The highest average cost per mile of major road work in the last year was $24,951 as done in the State of California, while the lowest average was $628 per mile, the work being done in the State of Minnesota.

The 2,569 miles of major roads which had been constructed by June 30, 1924, at a cost of $27,581,773 represent an average cost of $10,736 per mile. The minor roads constructed and improved to June 30, 1924, amounted to 6,137 miles, costing $6,604,078, an average of $1,076 per mile.

In the fiscal year 1923, 4,123 miles of trails were built at a cost of $990,671 which is an average of $240 per mile; while in 1924, the average was $198, there having been built 4,805 miles at a total cost of $952,784. The average cost of the 15,875 miles of trails as constructed by the Forest Service to July 1, 1924, was $230 per mile.

-------#-------

WASHINGTON NOTES

Where Timber Sales Business is Growing - and Otherwise: At the end of the first six months of the fiscal year 1925, District 2 has taken in more timber sales money than District 1, and District 7 more than either District 3 or District 4. The sales in District 2 are increasing rapidly, and this is the first time that District has been ahead of its northern neighbor at the year's half-way mark. As was to be expected, California's hard luck with the drought fires, hoof-and-mouth disease and other pests, freezing of orange crops, movie scandals, etc., caused a loss in sales receipts in District 5 of over $120,000 compared with the fiscal year 1924 - but still California would look pretty good to anyone in D. C. these stormy winter days.

- - - - - - -

Logging Engineer J. S. Swartz of District 4 recently paid us a visit. He was very enthusiastic about D-4, and stated that the common conception that it is a desert District with minor timber interests is entirely wrong; on the contrary, that the District has more of interest to show in timber sales and management than any of the eight.

- - - - - - -

The Fourth of the Current Series of Family Meetings was held January 7 in the National Museum auditorium. Colonel Greeley, the speaker of the occasion, with his accustomed facility and clarity, told about the game animals, birds, and fish that make their home in the National Forests. After pointing out their importance as a valuable resource, the relation they bear to other administrative problems and to the recreational use of the Forests, and our duty to posterity of perpetuating the nonpredatory species, he outlined what the policy of the Service should be in dealing with such wild life. A part of his talk was illustrated by some very good still pictures.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Conventions: January is the month of meetings in Denver. Those of particular interest to members of the Forest Service are the National Western Stock Show, January 17 to 24; the Annual Meeting of the Colorado Game & Fish Protective Association, January 21; and a special meeting of the Colorado Stockgrowers' Association on January 23 to consider a plan for establishing a system of orderly marketing of live stock. The last will be a meeting of the stockmen, the stockyards representatives, and railroad men. It is calculated that the 28,000 head of cattle dumped on the Denver market November 17, the largest in the history of the Denver stockyards, lost the cattlemen who shipped to this market on that day at least $200,000. On all the principal markets, almost a million was lost by the stockmen in that one week because of breaks in the market due to the temporary oversupply. If the number could have been distributed throughout the week, instead of all coming in on one day, they could have been absorbed without any inconvenience. As it was, they were actually absorbed by the close of the week under a broken market.

- - - - - - -

New Officers of the Federal Field Club: District Forester Allen S. Peck has been elected Director at Large, and W. J. Ise, Assistant to the Solicitor, has been elected President of the Federal Field Club of Denver.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Portrait of Ranger to be Exhibited in New York: Prominent among the paintings that have been on exhibition in the National Museum in Santa Fe is a three-quarter length portrait of Forest Ranger Walter M. Pinson. Randall Davey, noted Santa Fe artist, is the painter. Ranger Pinson has a physique and personality that would appeal to any portrayer of outstanding human characteristics and it is said the product of Mr. Davey's brush is a tale well told. Pinson is six feet or more in height, broad, rugged and angular, and in both feature and form he fairly radiates the idea of strength and courage. The artist has pictured every detail truthfully, according to those who have viewed the portrait, from the Forest Service badge to a Bull Durham tobacco tag. The picture, considerdd by the artist himself as one of his best works, was placed on display January 15 at Duveens Art Gallery on Fifth Avenue, New York, under the auspices of the National Portrait Painters Association of America.

- - - - - - -

Good Brush-Burning Data: The following observations were made in connection with recent brush burning on a whole area of small timber sales on the Santa Fe. The data are based on about 40 acres consisting chiefly of western yellow pine but with some Douglas and white fir in canyons and depressions. Brush was cut and all piled in July and August. The summer and fall were exceedingly dry and by December the brush and ground litter were in good burnable condition. A half inch of snow fell and burning began. Well piled isolated brush burned clean with very little chunking up and without fire running from the base. Heat from several piles fired simultaneously dried out ground litter and fire ran in spite of snow. Draft from several piles close together carried flames 15 to 20 feet high and wide with damage to foliage on surrounding trees. The conclusion is that extremely dry brush can be successfully burned with even a light snow but brush should be piled green and the piling must be cleanly done. That is, small branches and needles should be well cleaned up around bases of piles and large stuff should be piled "butts in and butts up." Only a few piles should be fired at first and results watched. Burning should be confined at all times to areas small enough to be thoroughly under control of force at hand. Burning should be against the wind and downhill with a close eye on changing winds and temperatures. Closely grouped piles should not be fired all at once and, if possible, brush that is close to reproduction should be carried to other partially burned piles for burning (or left unburned).

--------#--------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Those Kaibab Deer: The deer drive on the Kaibab was an interesting failure, as reported by District Forester R. H. Rutledge; a failure so complete that it is improbable that the proposition of driving the deer will ever be brought up again. As an example of what took place, Mr. Rutledge cites a case in which 150 cowboys and Indians equipped with bells moved across a flat about five miles long, upon which it was estimated that there were a thousand deer. The flat broke off steeply into a canyon, down which it was proposed to drive the animals. Watchers stationed at the edge of the flat, where they could see the animals which were driven into the canyon, reported that as nearly as they could tell two animals were driven in. A couple of hundred yards in the rear of the drivers, the deer were obviously as plentiful as they were before. Possibly the very tameness of the deer has led to this unexpected condition, for the young animals got rather excited and tended to gather in front of the drivers and to run before them. The older deer, however, showed no signs of freight and deliberately played hide-and-seek with the drivers around the juniper trees and masses of shrubbery. Many instances were reported of Indians with bells coming around one side of a tree, while the deer quietly slipped around in their rear on the opposite side.

- - - - - - -

How to Foil Mountain Lions: For the benefit of Forest officers who may find themselves in a similar predicament, the following incident is related.

One of the grazing men working in an especially wild portion of the District not long ago found himself pursued by a large mountain lion, who followed him stealthily at a distance, presumably waiting until nightfall before making an attack. The grazing man noted the animal, tried to elude him by doubling on his tracks, but it would not be shaken off. Fortunately, the Forest officer was not very familiar with the local flora in the place where he was working, and had with him a copy of Coulter and Nelson's botany. Opening the book, he turned to page 420 - the mint family - and read down the list of plants until he came to Nepeta Cataria. He tore the page out and threw it behind him on the trail. When the mountain lion came along it discovered this unusual object and started to investigate. Very naturally it became highly interested in the description of catnip given there and while engaged in this pursuit was eluded by the wily Forest officer.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Forestry Resolutions Passed by Western Division of United States Chamber of Commerce at Los Angeles, Calif., December 3, 1924:

To make effective the Chamber's forestry policy, it is essential that adequate appropriation by the Federal Government should be made to carry out the provisions of the various Federal forestry acts and especially the Clarke-McNary act.

This meeting further urges that the Chamber should advocate changes in Federal taxation methods to encourage the practice of reforestation on a fair and equitable basis, consistent with the long time involved and the creative nature of this form of enterprise. Federal forest experiment stations have been established in a number of important forest regions. It is the recommendation of this meeting that the importance of forestry in California should be pointed out to the Federal Government in considering the establishment of future Federal forest experiment stations. This meeting also directs attention to the need of administration by the United States Forest Service of all lands owned and controlled by the Federal Government which are primarily and chiefly valuable for continuous forest management.

The attitude of the individual States towards reforestation is of great importance. It is recommended that the various States should revise State legislation, to the end that forest lands be adequately protected; that tax laws applying to lands devoted to reforestation be reasonable and promotive, and that funds should be provided to carry on forest research in connection with State educational institutions dealing with forestry.

It is important that in each State some outstanding commercial organization should interest itself in the forestry needs of the State, and with the aid of experts cooperate with all other interested organizations in the State in obtaining sound State forestry policies. Private forest owners should, with the aid of competent, expert advice, seriously study the practicability of applying systematic reforestation management to their properties.

While in national forestry policy the matter of adequate fire protection and the matter of forest reproduction have for years received national consideration, it is only recently that a third outstanding factor in connection with the forestry policy of the United States, namely, intelligent utilization of forest products, has been given national prominence. Following the national conference recently held in Washington, D. C., to consider the subject, it is recommended that the board of directors of the Chamber of Commerce of the United States consider the advisability of indorsing a nation-wide investigation of wood utilization, both industrial and private, for the purpose of developing more economical use, and thereby materially reducing the drain upon our forest resources.

- - - - - - - -

Teredos Cause Destructive Fire:

Seven men dead, two oil tankers - one a million-dollar craft - destroyed, and the terminal warehouse of the Associated Oil Company at Avon burned to the water's edge, is the latest toll taken by the festive teredo of San Francisco Bay. A half-mile section of the Associated Company's wharf, undermined by the sea worm, collapsed under the load of 6,000 cases of gasoline. In so doing it pulled down electric wires and caused a short circuit which resulted in one of the most costly and spectacular fires ever experienced in Pacific Coast ports. The damage is estimated at $1,250,000.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Good Stunt: Ranger Thompson of the Mount Baker reports something new in sign posting. First set a 4x4 cedar post with a direction or identifying sign near the top, as per usual. Then knock down a condensed milk case, round off the corners of the two end pieces, and attach one of them to the post about eight inches below the sign. On this board tack one of the "He who runs may read" yellow cardboard fire slogan posters. Put on a fresh poster each spring. As one visitor remarked, "Anyone who would violate a fire regulation after an effort like that to keep people posted ought to be kept out of the forest." This plan was tried this year along the Skagit River trail between Gorge Creek and Ruby Creek, and a great many favorable comments resulted. Guard Kagle made the signs.

- - - - - - -

Western Forestry and Conservation Annual Meeting: This was a most important meeting, since a full discussion of the provisions of the new Reforestation Act of June 7, 1924, was held. A very full program was arranged and the conference was attended by a large number of representative lumbermen. State officials, and Federal foresters from Montana, Idaho, Oregon, Washington and California, and British Columbia. The meeting lasted three days and was held in Vancouver, B. C., the first time in eleven years that it has been held with our cousins across the border.

- - - - - - -

Ranger Job Popular: A total of 135 men tried the Ranger exam. in D-6 this fall, and quite a few were turned away for lack of examination papers. For some reason in several cases (Seattle and John Day at least) the papers didn't arrive until the last minute and then not enough came. At Portland, Seattle, and Olympia, applicants had to be turned away for lack of question sheets. A total of 23 tried it at Portland and 19 at Seattle, while only one attempted it at Okanogan.

-------#-------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 4. Washington, D. C. January 26, 1925.

[illegible]

By [illegible]

Rereading the Forester's article "Our Responsibility for Good Forest Practice" in the SERVICE BULLETIN for [illegible] 23, I am [illegible] to one who has spent much of his time in the [illegible], and [illegible] years of it on timber sale work, and has rubbed [illegible] - [illegible] had an overdose of - that 'commercializing pressure' for [illegible] the sale while listening to the frequently reiterated [illegible] for "results" under [illegible] the well settled policy on the other; who has pretty well [illegible] the 'top of the morning' [illegible] and [illegible] not to lose sight of the ideal that the [illegible] ice was not the mere harvesting of the present crop, but the [illegible] of a continuous timber supply, the Forester's article [illegible] [illegible]. He says: "---the real test of a well conducted timber sale is in the condition in which it is left. That will stand for a generation or more to commend or damn the man responsible for it, long after everything else connected with the transaction is forgotten." True! Certainly no 'man with a [illegible]' will [illegible] it. But hitherto there [illegible] times when he has wondered who, in justice, was to be held responsible for results when various inspectors each took a 'shot' at it but scarcely [illegible] any check [illegible] on the [illegible] for the particular case. Or again, when the policy as stated was enforced down to the letter [illegible] in [illegible] tively unimportant cases but was "[illegible]" in more important ones apparently as a direct result of that "commercializing pressure," which is in turn an outgrowth of that "let posterity take its chances" attitude of the average timber operator.

With his ideas and ideals thus frequently buffeted about, it is perhaps little to be wondered at that a man with [illegible] lost his bearings due to "local attractions," and that there was strong incentive for him to think more of his pay check and how to "get by" with the next inspector, and less of his personal responsibility for the ultimate condition of the cut-over area.

The Forester's statement clears away much of the smoke. It's a new deal and the men with the marking axes "stay."

Then comes Mr. Eldredge in a similar article in the SERVICE BULLETIN of August 4, speaking as a man with full knowledge of his subject, first hand and indisputable. He has the courage to lay stress on the prime importance of the practice of Forestry, Silviculture, the Growing of Trees, as distinguished from Forest Administration as a whole. Mr. Eldredge is considerably "hoped up" by occasionally - none too frequently God wot - finding some signs that a man has used his head as well as his marking ax. This is hopeful. Still more hopeful, it seems to me, is the apparent general tendency to realize that the mere carrying or using of a marking ax does not preclude the possibility of a man possessing brains and even of using them in connection with his particular marking job.

Time was, and not so long ago, when timber marking - which of all others is the one thing that cannot be standardized and applied mechanically or under a blanket policy - seemed about to be standardized to death; that we were nearing that point where we would hand a man, any man, a mimeographed copy of the Marking Policy and he would, forthwith, as if by magic, be transformed into a timber marker endowed with the tempered and well balanced judgment and other more or less intangible fruits of years of timber experience, and an "instinct" for the woods. But not in a thousand years! There is as little comparison between the first work of that man and the work of a timber marker as between discharging firearms and shooting!

Every Ranger has an ax, but not everyone is a timber marker - nor ever could be. If a man's main interests and his "instincts" run to "salting long horns on the mountain side" then he might be a mighty good long horn salter (and the Service needs such men) but his timber work would probably need a lot of bolstering to cover his lack of experience and the necessary intensive interest.

I take it that Mr. Eldrelge means by "a man with a marking ax" one whose major duty is to mark timber. At least on the large sales is where the most work, good or bad, is done. Men for this class of work, I venture to suggest, should be constantly in process of development. Surely for each District there should be placed in the hands of every man who ever "spots" a tree some such comprehensive study of his particular timber as Pearson's D-3 Yellow Pine Bulletin. This he should digest and prove that he had done so by answering a questionnaire. It is the next best thing to practical experience although it cannot, of course, wholly take its place. With this as a partial guide it would be easier to pick square pegs for the square holes, present or prospective.

If a man does not know why he does a thing, and attempts to rely upon dimly remembered instructions only, and these perhaps not exactly applicable to the case in hand, his work can be no better than mere mechanical pottering along. He will occasionally be right - by mere chance.

-------#-------

THE SMOKEHOUSE FIRE

Solution of the fire problem appearing in January 19 issue

By U. S. Swartz, D-1

1. Ranger Brown telephones at once for the mill crew of 30 men, and starts his trucks for them after delivering his road crews and supplies at the end of the Smokehouse Creek road. He starts the two road crews constructing a fire line from the swamp on Smokehouse Creek toward the ridge to the west. The fire line is far enough in advance of the fire to eliminate the danger of the main fire reaching it before a sufficient amount of line has been constructed and back-fired.

2. On the arrival of the additional 30 men, 7 men, with one of the road foremen in charge, would be sent up the ridge to construct a fire line in its rear, where it is traveling against the wind. Five men under the camp foreman would be sent up the creek to a point where the fire would be likely to reach the swamp first. These men would start constructing a fire line up the slope to the northwest in the face of the wind. The other 18 men would be added to the original 20 men, making 38 men all told. These would be divided into four crews under the direction of one of the road foremen, each crew to be in charge of a strawboss selected from the men, preferably from the road crews. Three of these crews would be strung out a certain distance apart up the slope moving ahead as needed from time to time. The fourth crew would be started to cut out a line along the west side of the creek, in order to have a place where the water of the creek could be used to put out the fire on its approach to the creek or as a place from which to back-fire in case there was danger of the fire reaching the creek before the wind subsided. No trench would be made on this line.

3. The foreman in charge of the crew in the rear of the fire would be instructed to keep his line as close to the fire as possible, also to keep in touch with the progress of the fire and shift all or any part of his crew to danger points as necessity arose.

[illegible] would be instructed to push the line to the top of the ridge as fast as possible, cut all snags that are dangerous to the line, and continue the line northward on the ridge to intersect the line made by the crew in the rear of the fire.

Brown would keep in touch with the progress of the fire and if there was any danger of the fire reaching the line before the wind subsided, to start back-firing from the trench, and as fast as a hundred yards of line were back-fired, Brown would place a patrolman on duty to watch the trench.

The foreman would be instructed to make a fire line at least 6 ft. wide (in case of heavy timber or brush 8 to 10 ft. wide), removing all down timber and brush from it; to place the debris on the side of the line away from the approaching fire; to construct a trench in the center of the clearing 18 to 24 inches in width and down to mineral soil, removing all roots or anything that would allow the fire to creep or cross it.

They would be informed that as soon as the fire was under control all snags or any tree which was on fire near enough to throw sparks along the line should be felled.

4. One of the trucks would be dispatched to the ranger station for additional supplies to be back in time to have it available for breakfast on the following morning. The other truck would be used to get additional equipment or beds, if none had been brought with the men.

1924 RANGER EXAMINATION

By Ira T. Yarnall, White Mountain

The first question in the recent Ranger Examination requires a [illegible]-word statement concerning the creation, location, etc., of National Forests. There are only 1,074 sets of papers to correct. The reading of these papers 7 hours a day surely becomes monotonous, but some diversion is enjoyed by occasional absurd and ridiculous answers. A few of these are:

Back-firing: Fire whirling back by force of wind.

Saw Kerf: Is the thing of no use for lumber.

Geographic location: National Forests are located in the northwest and southwest except the Forests located in Washington, D. C.

Some ramble along with a disconnected array of words concerning the duties of Forest officers. One stated he would like to become a Forest Ranger because he would look well in the Forest Service uniform.

The question on surveying and simple mathematics is a stumbling block for many applicants. One who stated he was the principal of a public school was unable to figure the area of a rectangle.

The primary idea of grading papers is to determine whether or not a person knows the subjects being discussed. Some of the papers give the impression that the person is familiar with the subjects but is unable to express his ideas in a sufficiently clear manner. It is also surprising to see how many misread the questions and failed to answer all parts. Some have lost out through being careless in this respect.

Some very fair papers are received. As would be expected, the best papers are from men who have served in some temporary position on a National Forest, similar work in private employment, or attended some ranger or other forest school. This is certainly a healthy condition for it means that many of the applicants have already secured practical experience or else have studied the theory and practice of forestry. This confirms the wisdom of the practice of the Forest Service in encouraging men to secure advance training as temporary employees before taking the Ranger Examination.

-------#-------

WASHINGTON NOTES

Dr. M. C. Merrill, former Director of Forestry Publications for the Service, has been abducted by the Department and is now Assistant Director of Publications, in charge of Scientific and Technical Manuscripts. A farewell luncheon in his honor was given by the members of the Washington office.

- - - - - - -

Will C. Barnes, Chief of Grazing, is now in the field attending meetings of the National Livestock Associations which are being held in Districts 3 and 5. Before returning home, Mr. Barnes will also visit Districts 2, 4, and 6.

- - - - - - -

Supervisor Ira T. Yarnall of the White Mountain is at present in Washington busily engaged in working Ranger Examination papers. Elsewhere in this issue he has written about the way not to answer some of the questions.

- - - - - - -

Henry Wold of Operation has returned to Washington from a vacation trip to the West Coast. En route he stopped at all of the District offices except D-2 and renewed old acquaintanceships.

- - - - - - -

As Grazing is rewriting it for the Manual: "Mary was the proprietress of a diminutive incipient sheep. Whose outer covering was as devoid of coloring as congealed atmospheric vapor. And to all localities to which they perambulated the young Southdown was sure to follow. It tagged to her dispensary of learning, one diurnal section of time - which was contrary to all precedent - and excited the cachination of the seminary attendants when they perceived the juvenile mutton at the establishment of learning. Consequently, the preceptor expelled him from the interior. Which precipitated Mary into a lachrymose condition. But he remained in the immediate vicinity without fretfulness. Until Mary once more became visible."

-------#-------

DISTRICT 2 -- ROCKY MOUNTAIN DISTRICT

Colorado Range Conditions: Beginning early in December and continuing well into January, Colorado has been experiencing one of the coldest winters on record. In some sections the pastures are covered with snow necessitating the feeding of concentrates or grain, and if conditions continue there will be a marked effect upon range stock before the opening of spring. The stock went into the winter in such good condition this year that they have stood the weather very well up to this time and losses have been few. If, however, such weather should take place just before the grass in spring, with feed low and stock in reduced condition, there will be heavy losses.

- - - - - - -

Licensing Migratory Stock: The Colorado legislature in 1933 passed a law requiring a license for stock from adjoining States using the public domain in Colorado. This has recently been declared unconstitutional by the Supreme Court of Colorado because it is discriminatory between the residents of Colorado and those of neighboring states and thus is contrary to Article Four, Section Two of the United States Constitution.

- - - - - - -

DISTRICT 3 -- SOUTHWESTERN DISTRICT

Forest Service Cooperation Recognized in Biennial Report of State Game Department: The names of nine New Mexico Forest officers are specifically mentioned as cooperators in the list of successful prosecutions which appears in the biennial report of the New Mexico State Game and Fish Warden. They are Rangers Lemley, Messer, Bloom, Painter, [illegible], [illegible], and Rodriguez; Supervisor Kartchner and his deputy Mr. [illegible]. According to the report, Forest officers put through prosecutions in twenty of the 103 cases. These 20 cases brought in $612.80 in fines and the violator was required to pay costs of trial in each instance. One judge in a prosecution handled by Ranger Painter gave the offender a 30-day jail sentence.

- - - - - - -

United States Now Free of Foot and Mouth Disease: According to press statements there have been no more cases of the dread foot and mouth disease since the outbreak in Texas in October, and it is regarded that the country is now entirely rid of the plague. Danger areas of California and Texas are being closely watched by Government agencies, but the States are in general removing their embargoes.

- - - - - - -

Pearson to Spend Rest of Winter in D. C.: Mr. G. A. Pearson, Director of the Southwestern Forest Experiment Station, has arrived in Albuquerque. He will spend about three months in the District Office compiling the results of his research work at the Experiment Station.

--------4--------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Game on the Lemhi: The Forest Rangers of the Lemhi have submitted their annual fish and game reports to the Forest Supervisor, and these reports show some interesting figures on game.

Last year it was estimated by the Rangers that there were ranging on the Forest 735 antelope. This year's estimate shows that these antelope have made a very appreciable increase amounting to 1293.

Our estimates show a slight decrease in the number of deer using the Forest, from 2188 to 2090. This decrease is accounted for through the fact that for the last two seasons deer have left their summer range earlier than usual, coming down to their spring, fall and winter range, thereby making themselves more accessible to hunters.

The Rangers' estimates also show that the mountain sheep have increased on the Forest from 37 to 54 head. Their estimates show a marked decrease in mountain goat from 112 to 26 head. This decrease is contributed to natural causes such as drifting to more desirable refuges.

The Forest Supervisor has based his annual report upon the report of the Rangers and has made a recommendation to the District Forester that the "Big Lost River Game Preserve boundary be extended from the boundary established in 1917 to conform with the new Forest boundary established in 1921. This recommendation is made for the reason that most of the spring, fall and winter range for deer using the Game Preserve is now located within the new addition to the Forest. Also the present Game Preserve boundary is difficult to administer owing to the fact that the markers are not being kept up. The old boundary should be changed to conform to the present boundary so that the public would readily become informed as to when they were on the game preserve.

It was reported to the District Forester that the fishing in Big Lost River above the dam the past season was considerably below normal. This was contributed to low water conditions prevailing last season which prevented the trout from making their usual runs up the Lost River above the Mackay dam. The Supervisor's report also shows that deer are showing an appreciable increase on the Big Lost River Game Preserve. It is very common to observe deer grazing on the Forest from the Wildhorse Ranger Station.--C.N.M.

- - - - - - -

Allotment Conferences: Allotment conferences were held at McCall, January 6-7, with the Supervisor, Rangers Mann, Routson, Kessler, Wallace, and Technical Assistant Farrell in attendance. The protection of the "back country" continues to be a subject of outstanding importance. The year has been marked by much progress along this line, although on account of the size of the back country and its undeveloped state much work remains to be accomplished. Road and trail work; telephone line construction and efficient protection must be carried along together, and are being handled successfully. The Idaho had only three Class C fires originating on the Forest this year, which indicates the effectiveness of the protection now given, as heretofore years of high danger have seen conflagrations on this Forest. An interesting phase of work during the past year has been the successful use of two-man trail crews as a standard. These small crews have proved much more economical than the larger crews of previous years. A good mileage of trail has been completed this year by these small crews.

- - - - - - -

Vacancy Filled at Great Basin Experiment Station: Mr. [illegible] Nelson, now of District 3, has been selected as the new Assistant Director at the Great Basin Experiment Station to fill the vacancy caused by the resignation of Mr. Malmsten last fall. Mr. Nelson has had extensive experience in experimental work in the Forest Service. He served several seasons as Field Assistant at the Southwestern and Fremont Forest Experiment stations; one season in this capacity at the Great Basin Station; one season as Forest Guard on the Missoula Forest in D-1; on range reconnaissance in District 3 in 1917; as assistant for one year and in charge for four years at the Jornada Range Experiment Station in New Mexico, and for the past year in charge of range investigations in District 3. He was overseas with the 10th and 20th Engineers for a year and a half during the war. Mr. Nelson will assume his new duties about March 1.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

How Times Have Changed! The following resolution was adopted by the fifteenth Pacific Logging Congress during its annual session in Portland, Oregon, recently:

"We thoroughly realize the importance of forest production and replacement, both of which call for more public and private effort. The Clarke-McNary Bill represents a great advance in national policy and we urge liberal appropriations to make it effective. Greater care with fire and better equipment to deal with it are responsibilities which also lie with us as an industry. We urge all loggers to keep abreast of developments to safeguard their operations, such as fire pumps, camp guardians, and the use of weather forecasts. The time has come to recognize the value of second-growth timber. Cut-over land should be protected with this in mind.

New growth should not be unnecessarily destroyed by either settlers or lumbermen; especially where there is any doubt as to agriculture being the highest use of the land. Permanent forest production on land most suitable therefor calls for the development of both public and industrial policies with sound foundation of taxation, fire prevention and knowledge of tree growth. More knowledge along these lines is needed."

The Pacific Logging Congress is a representative organization of lumbermen and loggers from the States of California, Arizona, New Mexico, Washington, Oregon, Idaho, and Montana.--T.D.W.

- - - - - - - -

Little Sayings of Great Men:

"Millions for fire fighting, but only a few cents for protection."--P.G.R.

"Save and the world saves with you, spend and you pull 'a bone'."--R.L.D.

"A marked tree gathers no moss."--T.D.W.

"And many strokes, though with a little pen,
Produce ofttimes a U. S. bulletin."--S.B.S.

"A live heifer is worth more than a dead cow."--J.W.N.

"The measure of an expense account is not its length but its honesty."--
A.W.S.

"A burned Forest dreads a fire."--R.L.P.B.

"The clatter of street cars oft drowns the voice of the law."--H.P.D.

"Don't give up the fire line, boys, I'm behind you at the telephone."--
D.I.K.

"My only regret is that I have but one stub pencil to give to my country."
--T.W.K.

DISTRICT 6 -- NORTH PACIFIC DISTRICT

Distinguished Visitor: Arthur C. Ringland, from 1908 to 1916 District Forester of the Southwestern District, was a recent visitor to Portland, with Mrs. Ringland and their little son, Peter Ringland.

Mr. Ringland is well known throughout the Forest Service, in which he served from 1900 to 1917. After leaving Yale in 1905, he held many positions in the Service, from Chief of the famous old "Boundaries" to

Chief of the Branch of Lands, District Forester, and then Forest Inspector. He was the first to urge the organization of a forestry regiment back in the early days of 1917 when it looked certain that this country would have to get into the World War. He left the service early in the spring of 1917 to enter a military training camp and was the first to volunteer for the 10th Engineers. He went overseas as Captain, and Regimental Adjutant of that regiment. He later was assigned to a combatant engineer regiment and saw much service at the front in Belgium and France.

After the armistice, in 1919, he was placed in charge of all Child Feeding work in Czecho-Slovakia, with the American Relief Administration under Herbert Hoover. He made a splendid record in this work, which record was officially and publicly acknowledged by the leading statesman of Central Europe and also in the press of Europe and the United States, - Ringland being decorated by several European nations. Later he had charge for some two years of Russian refugee work in Constantinople, and while on this work appeared before the Council of the League of Nations at Geneva, the first American to appear and speak before the Council.

During his work for the A. R. A., he traveled throughout Central Europe, Russia, and Asia Minor, and was a close observer of economic conditions in those countries. He returned to America last February with Mrs. Ringland and his little son, and since April has been in California. January 1 he became Executive Secretary of the National Conference on Outdoor Recreation, with headquarters in Washington, D. C.

- - - - - - - -

"A Giant Chained: There is a giant who walks abroad in the United States of America. He is the guardian of the Nation's welfare, a defender of the oppressed, a scourge to enemies of the public good. He blunders sometimes, this giant, because even he does not know his strength; but inevitably, in the end, he hews to the line. These are not empty phrases; they are history. The name of the giant is Public Opinion."

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 5. Washington, D. C. February 2, 1925.

AMERICAN FOREST WEEK

By Wm. B. Greeley

For some time the question of broadening the scope of Forest Protection Week has been under consideration. No action was taken last year as it was thought best to make at least one more intensive drive against forest fires and to interest as many private organizations as possible in that campaign.

This year, however, the Service is confronted with new considerations. Much has been done during the past twelve months to bring forestry in all its phases home to various groups of Americans as well to the great mass of citizens. Among the outstanding events of the year were the wood pulp survey, which served admirably in awakening the publishing interests and newspaper owners to the need for reforestation and conservation; the National Conference on Outdoor Recreation, which, among other things, served to acquaint about 130 national organizations with the wild life and recreational possibilities of the National Forests; the interest displayed in forestry by the President; the Conference on the Utilization of Forest Products, which definitely placed this problem before the American public and aroused interest in research; and last, but by no means least, the passage of the Clarke-McNary Forestry Act, the provisions of which will mean so much to forestry in America when once placed in effective operation. These are all points on which American citizens need education as much as they do on forest fires.

Because of the many events pointing toward aggressive reforestation policies, better utilization methods, taxation reforms, and all the other forward steps necessary to establish a National Forestry policy, the Service should this year seek out and secure the aid and cooperation offered by many private organizations, including the State Forestry Departments. To enlist this aid and use it to its fullest extent I believe that this year's campaign should be broadened and called AMERICAN FOREST WEEK.

Under this new name the campaign can properly include every phase of forestry and at the same time retain the forest fire angle where that phase of the campaign is paramount. We can continue to specialize on forest fires where we deem best, since the protection of forest lands is basic in forestry. But under the broader scope of the campaign the other phases of the Service's work also may properly be emphasized if time and circumstances permit. This broader scope, however, gives an opportunity to include other matters. Its chief appeal, perhaps, will be to the private and State organizations, which we hope and believe we shall succeed in interesting in the more inclusive campaign.

In the Middle West, the North, the Northeast, and many parts of the South the forest fire campaign has had little or no appeal, except in the Lake States. Yet these sections of the country must grow their share of the nation's timber crops. To these sections the Clarke-McNary Act will apply. Under the new and broader name our annual campaign will be thoroughly applicable to them. The Lake States themselves are interested fully as much in new tree crops as in any other angle of forestry.

The Washington office has ambitions plans whereby AMERICAN FOREST WEEK will be "sold" to private organizations to a greater degree than ever before. We hope to form a General Committee numbering, perhaps, a hundred national societies, from among which an Executive Committee will be selected. For the chairmanship of this committee a man will be selected who has the confidence of the commercial interests, the Government, and the public at large.

I sincerely hope that the idea of an AMERICAN FOREST WEEK will meet the same enthusiastic support among all officers of the Forest Service as did FOREST PROTECTION WEEK.

-------#-------

THE ERIE R. R. FORESTRY TRAIN

By H. R. Kylie, Washington

A special train carrying exhibit material and motion pictures on forestry has just finished a successful trip on the Erie Railroad, and has the distinction of being the first enterprise of this kind as far as this writer is aware. The suggestion came from the Development Department of the Erie Railroad. It was made by them because of their decision that much of the land along their lines is better suited for tree growing than for agriculture. A further reason was that their engineers believe the annual washouts along the lines can be stopped if the headwaters of the streams can be forested.

Their representative talked with Mr. Sherman; the machinery was started in motion; and as a result the State Foresters of New York and Pennsylvania together with the Forestry Departments at Cornell and Pennsylvania State College, the New York State College of Forestry at Syracuse, and the Forest Service, cooperated in supplying material to fill the cars and demonstrators to preach the gospel.

The two cars of exhibit material were arranged in somewhat the following order: type of lands to be forested, species to be planted, examples of growth, care of the woodlot, marketing the product.

Seedlings were shown at different ages, and methods of planting were demonstrated. Orders were taken by the Department of Forests and Waters of Pennsylvania, and the Conservation Commission of New York State. Motion pictures from both States were shown and short lectures given at each of the stops made by the "Forestry Special."

The average attendance was nearly 200 at each stop, and there were 52 stops. This made an attendance of 10,000 people - farmers, city dwellers, owners of woodlots, high school and grade school pupils and their teachers; in fact, a truly representative group from the communities visited. Both the old and young ideas were taught to shoot by the silver-tongued orators from Federal and State organizations. As a result some 500,000 trees will probably be planted next spring.

In addition to the exhibit and motion picture work a great deal of peppy advance publicity was got out. The Extension Departments of the States have planned to follow up the work with demonstration plantings and in other ways this coming spring. What the harvest will be may only be conjectured, but most of us who were interested feel that a great deal of good must necessarily come of it. It is new; it is novel; and there is every possibility that other railroads may be glad to cooperate in similar undertakings.

-------#-------

WAR AND FIRE

Solution of the fire problem appearing in January 19 issue
By Harold L. Borden, Holy Cross

The Ranger, fireman, and twenty men with tools and trucks are at Hostetters, while the sawmill crew of 30 men are two hours' ride distant awaiting orders. The fire has already covered an area of approximately 240 acres and the worst part of the day is still to be contended with, which, together with an increasingly high wind and low humidity whipping the flames into the heaviest of the timber in the locality, makes it doubtful if the present force could adequately handle the situation.

It is evident from the direction of the wind and the report of the fireman, that to save the day and control the fire in the least possible time it must be shut off from the south. This, then, is the point the crew should get to at once. There are two routes, one up Smokehouse Creek and the other up White River. Of the two roads, evidently the one up White River is by far the better, since the one up Smokehouse ends at nowhere about two miles up the creek and is evidently an old log or timber road probably in poor shape. By going the White River road one can get the trucks to within a little less than a mile of the fire, while up Smokehouse it is nearly a mile and a half to walk. By going up White River most of the walk, although steep, will be in comparatively open country, but in going up Smokehouse heavy timber and thick reproduction will be encountered. Taking everything into consideration, I believe the White River road is the better bet.

First of all, the Ranger would telephone the sawmill that the trucks will be there in two hours' time and to hold themselves in readiness. (This is based on the assumption that there is no nearer transportation than the two trucks on the scene.) Having concluded this, they are off up the White River Road either to the old cabin, if that is a good camp site, or not quite so far if a more practical site is available from a camp site standpoint and as a starting point for a good route to the fire. On reaching this point the supplies and men are left and the truck drivers instructed to go back after the sawmill crew and bring them to this camp just as quickly as possible. Two men are left in camp to get it straightened out and a meal started while the Ranger and fireman and eighteen men hit over the ridge for the fire.

The Ranger taking half the men and the fireman the other half will arrange them along the south line probably a quarter of a mile from the fire at least, because of the rapid spread and intense heat, and start building a fire line from two to three feet wide clearing it of everything down to mineral soil. The map shows a distance of about a mile from the creek to the ridge and twenty men can build that much line pretty quickl as it means only about 260 feet per man.

If the fire has developed into a crown fire, it will be going its worst about the time the men reach the area and will continue until four or five p. m., so that it may be necessary to back fire to save the line. This should only be used as a last resort, and only one's position on the ground can determine definitely if this should be done. In the meantime, the sawmill crew, with luck, should reach headquarters camp at about four to four-thirty p. m. They should be given a lunch and headed by the Ranger or fireman, who has returned for them, taken to the fire line. Enough of these reinforcements should be added to the present [illegible] hold the south end and the bal[illegible] fire with the idea of making a control line entirely around the fire [illegible]ally if necessary. On the west side the line should be on the ridge and on the east and north sides just as close to the fire as is possible.

Between six and seven the fire should die down and the original twenty men can be sent back for supper and rest for four or five hours. In the meantime the thirty men can be strengthening the line during the night or until midnight when they can be relieved to get supper and a short rest, but with provision that all will be on the line bright and early next morning if conditions warrant.

If there are no beds when the trucks return to camp with the sawmill crew, they can be sent back for 25 or 30, and more grub if necessary.

After a good vigil the following day, if the line is not lost, patrol will follow until fire is out.

--------#-------

WASHINGTON NOTES

National Forest Receipts for the first half of this fiscal year show a net deficit of over $55,000 as compared with the same period last year. The greatest falling off was in timber sale receipts, with a net decrease of over $146,000. Grazing (C & H) aggregated almost $23,000 better than the corresponding six months of last year, and water-power jumped over $36,000. All Districts with the exception of 2 and 7 show decreases in their total receipts. District 5 with an income of over $520,000 leads in amount of receipts; Districts 6 and 2 following.

- - - - - - - -

Colonel Greeley Reelected Director: The Forester has returned from Chicago where he attended the annual meeting of the American Forestry Association. He was again elected to serve as a director of the association. While in Chicago the Forester also attended a meeting of men from the Lake States who were interested in forestry and who were brought together by Director Zon of the Lake States Experiment Station.

- - - - - - - -

Forest Service Men at Southern Forestry Congress: The Associate Forester and Mr. Peters have returned from Little Rock, Arkansas, where they attended the Seventh Annual Southern Forestry Congress. Mr. Sherman, Mr. Peters, Director Frothingham, Director Forbes, and Supervisor Plymale of the Arkansas Forest were on the program of the congress. Mr. H. N. Wheeler delivered his lecture, "The Lure of the Forest," at the banquet.

--------#-------

FOREST EXPERIMENT STATIONS

"Soil Determines Tree Growth": An unusual demonstration of the power of soil composition to dictate species distribution was recently found in Arkansas. It was at the northern limit of loblolly pine where shortleaf had a better chance in competition to become established. A number of years ago a rounded knoll in this region supported a twenty-acre farm. Eighteen years have passed since the twenty acres were "thrown out" and pine trees seeded in. The entire area is now a dense stand of thrifty young loblolly pine, but for two exceptions. In one case, half a dozen hardwoods top the hill in an opening formerly occupied by the house, being planted there for shade. The more interesting break in the loblolly cover is a narrow, pie-shaped section on the south exposure, bearing an equally dense stand of shortleaf pine. Numerous borings with a soil auger showed the hill to be composed of brick-red sandy clay and gravel where the loblolly stood and light yellow fine sand and clay in the pie-shaped stand of shortleaf. The borings were made just after the first heavy rain which broke the long summer drought. Water had penetrated the red soil for two and a half feet, but in the shortleaf sector the yellow soil was dry below a foot. The farmer who cleared the land had noticed a difference in the soils, for cultivation ridges were still apparent in the loblolly stand, although the ground surface was smooth under the shortleaf. Local practice would indicate that the owner had found the yellow soil too poor for cotton and turned it into a pasture. The loblolly had taken the moist, well drained, red soil and left only the poor site for the shortleaf.--J.L.A., Southern.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

The December Blowdown: A very warm period which had taken off most of the snow and all the frost out of the ground, was terminated by a gale from the east accompanied by a very rapid drop in temperature. The wind apparently did a tremendous amount of damage to timber over very wide areas. Much of it doubtless occurred in remote regions, having not yet been reported. On the Pend Oreille Forest the cut-over areas on the Hedlund timber sale were almost ruined by the wind and much virgin timber blown down. On the Kootenai, three or four timber-sale areas near Troy were very badly damaged, much damage being done in green timber. The Cabinet reports at least a million feet blown down in accessible regions where most of it can be salvaged, with probably a very great damage not yet checked up. A recent report from the Thompson River Valley is to the effect that two-thirds of the timber was blown down along the road between the Bend Ranger Station and McGregor Lake. Most of this is A. C. M. Company timber, but the indication is that there was probably much more damage not yet reported.

- - - - - - -

Static Remover is Proving Useful: The value of the static remover for the elimination of static on grounded telephone lines in the Forests, which has been perfected by R. B. Adams after a number of years of experimenting, is illustrated by the following extracts from a letter written by the Supervisor of the Clearwater Forest.

"The static filter amplifier installed at the Bungalow Ranger Station during the latter part of July, gave excellent service. I am not competent to go into any scientific discussion of the instrument, but it certainly was of great value.

"During the afternoons and evenings when the static would make it difficult and at times impossible to hear over the regular telephone, by switching in the amplifier the voice could be heard strong and distinct and the static was reduced to such an extent that it caused no trouble whatever.

"Considering the static trouble experienced in the past and the results obtained the past season, I believe the static amplifier to be a decided success."

- - - - - - -

Instruction - vs - Entertainment: For the second of my three promised contributions as pledged at the Hunter's Hot Springs Ranger Meeting, it is possible that the information given me recently by a home missionary of twelve years' experience and accustomed to address both rural and urban groups in this part of Montana may prove helpful to us in our PR work. This man said that country audiences demanded facts, something to think about. Given this, he could rely on a continued and even increasing attendance. However, were he to present the same data to a city gathering, expressions of boredom and a dwindling attendance resulted. The country people desired, even craved, matter to think over; the very suggestion of thinking as distinct from entertainment antagonized the city people. His practice is to fit his talks to these conditions, satisfying the countryman's craving for information while leading him to reason on the premises, and using the city dweller's desire to be amused, to lead him to some degree of reasoning. He further claimed that a rural group could be addressed in plain language where the same talk used in a city community would anger and antagonize them.

This is submitted for whatever value it may have in constructive work in Public Relations.--E.W.H.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

National Western Stock Show Exhibit: At the National Western Stock Show in Denver, January 17 to 24, the Forest Service installed an exhibit together with other Bureaus of the Department of Agriculture. The exhibit displayed through a working model the value of forests in preventing erosion, and through still models the contrast between the result of open herding and close herding of sheep. The exhibit was very well received, judging from the number of visitors and the sympathetic comments made regarding the purposes of the displays.

The Biological Survey, the Bureau of Public Roads, and the Bureau of Animal Industry also installed special exhibits in addition to the Western Program of Agricultural Extension which was sent direct from the

Department in Washington. This last exhibit, consisting of four educational booths, created considerable interest at the show.

- - - - - - -

Ranger Meetings in D-2: It is proposed to have three Ranger meetings in D-2 this spring. One to be held at Montrose, Colorado, for the Grand Mesa, Gunnison, Montezuma and Uncompahgre Forests; one at Laramie, Wyoming, for the Arapaho, Colorado, Hayden, Medicine Bow and Pike Forests; and the third at Cass Lake, Minnesota, for the Forests in the three Lake States. The last two days of the Cass Lake meeting will be devoted to actual field demonstration of fire suppression methods.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Allotment Conferences: F. S. Baker, who recently returned from allotment conferences held on the Sawtooth Forest, reports that the past season on this Forest has been quite successful. It was particularly marked by successful prosecution of smokers for starting forest fires, the Sawtooth Forest having a much better record than most other Forests in this regard. Still, they have to admit themselves that luck broke in their direction in several cases. An interesting fire prevention or Public Relations development in the past year has been the erection and equipment of what is known as the Salmon River Lookout, a small square building, somewhat on the lines of a lookout, near the main divide crossed by the chief highway across the Forest. It is equipped with a register for tourists, posters are put on the walls and pictures of local Sawtooth scenes. It is equipped with a telephone, and although it is visited by a guard at intervals, it stands open without protection the greater part of the time. It has been very gratifying to see how the public has responded to this little building. It is not marked up with names and there have been no acts of vandalism, such as too frequently occur under similar circumstances. It has made quite an impression on the public and did much last summer to promote care with fire.

- - - - - - -

D-4 Handbook Assured: As time permits, branches of the District Office are building up material to include in a District handbook. The Forest clerks at their meeting in Ogden in March, 1924, favored a handbook to replace the present circular letter scheme of permanent instructions which are necessary in addition to material appearing in the regular manuals. This project will be continued until a real handbook is available for ever member of the permanent force in this district. We believe it will fill very useful purpose.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Forestry Bills Introduced in California Legislature:

Senate Bill No. 5, by Johnson; provides for cooperation with Federal Government in establishing and operating a forestry experiment station and makes appropriation therefor.

Senate Bill No. 10, by Taylor; provides prevention measures for forest fires, San Antonio Canyon, Los Angeles County, and makes appropriation therefor.

- - - - - - - -

Source of Clear Redwood For Second Cut: A block recently cut from a redwood tree 48 inches in diameter which stood on the Albion River near Comptche and which was left by the loggers of 1874 shows some interesting growth figures. Evidently this tree was suppressed and of small size at the time of logging, although even at that early date it was several hundred years of age, since ring counts show that it made only 3 inches of growth in a hundred years. Following the opening up of the stand, however, the rate of growth was accelerated to 7 inches in 42 years, but of this total the sapwood amounted to 4½ inches. The specimen shows emphatically that while redwood will endure long periods of suppression, the lumbermen are passing up much in the way of a nucleus of future stands of clear lumber. When second growth redwood is depended upon for the future supply, there will be a very small proportion of clear lumber. The present suppressed trees, although of low merchantable value if left standing, would furnish a large percentage of clear lumber, but of course the wood would be of different character than the present grade. So says Professor Emanuel Fritz of the Division of Forestry, University of California, who made a study of the redwood block above mentioned.

- - - - - - - -

Winter Sports: A first municipal winter sports carnival held by any city in California took place last week at Oakland's [illegible] recreation camp in the Plumas National Forest. [illegible] a few captured for the [illegible] of the guests, [illegible] and a toboggan - real novelties to the East Bay denizens of the Golden State.

-------!-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

[illegible] was the chief activity this summer on the [illegible] District of the Siskiyou, says Ranger [illegible]. He found on checking up that he had a total of 70 fires. Seven of these were incendiary, forty-four lightning, two brush-burners, thirteen smoker fires, four camp fires, and [illegible] miscellaneous. [illegible] of these fires occurred between [illegible] and September 20, a busy twenty days.

- - - - - - - -

Some Yield: A D-6 Research party that is gathering data on the growth of Douglas fir stands has been finding some astonishing yields. One sample acre, for example, in a 60-year old stand yielded ten gallons - all in one tree, a hollow one. The owner had probably secreted it there to let it age in the woods.--T.T.M.

- - - - - - -

Americanism: During the past summer when the fire danger was at its peak, the American Legion Post at Eugene, Ore., went on record as being willing to assist the Forest Service at any time in suppressing any fires where their services might be needed. Some 30 or 35 members signed cards showing willingness to volunteer their services at any time and these cards were turned over to Supervisor MacDuff. Luckily no necessity arose to call upon them but we certainly had intentions if they were needed, as it was felt no more loyal bunch could be called upon for assistance.

-------#-------

DISTRICT 7 - EASTERN DISTRICT

Them Days is Gone Forever: According to a report from Supervisor Shanklin of the Wichita only one 10-gallon hat, reminiscent of Oklahoma frontier days, appeared at the annual meeting of the Oklahoma sheriffs at Oklahoma City this month. "Uncle Bud Ledbetter," Sheriff of Muscogee County and picturesque peace officer of the 6-gun type of frontier days, lamented the apparent fact that he is becoming old-fashioned as he looked over the 125 Oklahoma sheriffs dressed in modern-day business suits. Shanklin, of course, submitted this report in justification of that cute little Fedora that is an established part of his buffalo wrangling equipment.

- - - - - - -

Wichita to be Featured: Arrangements have been completed with a well-known feature writer to spend considerable time on the Wichita National Forest and Game Preserve this spring with the idea of featuring this unique Forest in a series of stories for the "youth of America."

-------#-------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 6. Washington, D. C. February 9, 1925.

THE SPIRIT OF THE SERVICE

By Gifford Pinchot
From The California Forestry Magazine, May, 1917

The Forest Service came into existence February 1, 1905. But the essential part of it had been growing for seven years before the Transfer act put into its hands the work it was ready and waiting to do. Technically, the Forest Service had no legal existence before 1905. Practically it dates from 1898, when the men who created it began to enter the Government Service.

You may have an organization built along the lines of the best practice of the day; it may be perfect in every detail, polished, rounded, equipped with all the physical means of doing its work; but unless the spirit is there what you have is worthless. Like an engine without steam, it may look well, but it will do no work.

The essential thing in the Forest Service is now and always was the spirit of the men. What made it what it is was the long years of high devotion to the best ideals of loyal service to the common good by men like Henry S. Graves, whom I rejoice to have as my successor; Overton W. Price, to whom more than to any other man the Forest Service owes its present efficiency; Coert DuBois, whose ideal of what the Forest Service should be and do gives him the living discontent without which men drop into ruts and petrify; Charles H. Shinn, to whom the Service was a religion and from whom many a younger man caught the ideals which made him a member of the Service in spirit and in truth.

And these are only a few. There were at first tens, then hundreds, then thousands, of men who gave, and are giving, the best that is in them to the common purpose and the common need, men who love the work because they know its meaning, because they see the end from the beginning, because the ideal of public service has gripped them, because their lives belong less to themselves than to the commonwealth. These men were the founders of the Service, and they are renewing its spirit, its strength, and its marvelous usefulness year by year.

When the spirit which these men carry with them dies, the Service will be dead. So long as they and their successors live and do their work with the same high loyalty, the Service will never die.

The Forest Service is greater than any man or any group of men within it. It is as great as the vital interest of the people of the United States. The ideals which it holds, by which it lives, and which it spreads throughout the land contain the vital principles which this Nation must adopt if it is to survive and prosper.

I congratulate you men of the Service because there is nowhere a piece of work better worth doing than yours.

-------#-------

"LET THE 'SNIPES' FALL WHERE THEY LAY"

By Wallace I. Hutchinson, D-5

A tourist in the Holy Land paused one day before a curio store to admire a beautiful sword.

"That," exclaimed the merchant rushing out to greet him, "is the sword that Balaam killed his ass with."

"But," remonstrated the traveler, "Balaam didn't kill his ass with a sword - all he did was to wish for one."

"Ah, well," replied the merchant, "may Allah strike me dead if this is not the very sword he wished for."

Perhaps we have been using the same kind of logic in our cigarette-forest fire arguments. Maybe cigarettes don't start as many fires as we claim they do; and then again maybe they do. Throw a burning "snipe" into the corner of your living room, office, or factory, and watch it. Does it start a fire? Yes, about once in a thousand times. Yet the National Board of Fire Underwriters reports that in [illegible] the loss from "Smoking-Matches" amounted to nearly 26 million dollars - seven million dollars in excess of any other cause.

Cut and dried tests, such as described by H. T. Gisborne in the SERVICE BULLETIN of December 15, do not necessarily prove an alibi for the cigarette. Tobacco manufacturers have been giving us the same "line" of argument for a long time. That they are not quite sure of their ground is proven by the fact that some of them have lately agreed to put fire warning slips for smokers in their cigarette packages. It is possible, also, that matches are as much to blame for forest fires as cigarettes. On some Forests we know this to be true; on others it is questionable.

We are glad to get the facts presented in the Priest River Experiment Station tests, only we wish they had picked some other time than the rainy season to make them in. We notice, too, that no mention is made of weather conditions or humidity in connection with the cigarette experiments; both of which have an important bearing on results. Furthermore, the officer who did the "official smoking" is well known to us as both a Research and "roll-your-own" expert who scorns "tailor-mades," and is therefore persona non grata in this case. It would be interesting to see the same tests made by a duly accredited "coffin-nail expert" in a tinder-dry forest on a boiling midsummer day, with the humidity anywhere from 6 to 12 per cent, as is common in some parts of California.

Now as to the pipe-heel experiment. We don't know how much sick leave the Priest River men took to conduct this test, but it is a rugged smoker who can get away with ten "hods" a day. Of course they were not all smoked-out before they were "dumped," and therein lies the fallacy of all pipe tests. A pipe addict rarely empties his pipe until it is smoked-out or goes out, and it is not often that you find a "live" heel in the bottom of the bowl. All of which may or may not prove anything.

But we are glad to have the Research men take up this problem and hope they will continue the work next summer under fire conditions. There is need for a good many such experiments to prove or disapprove some of our old-time beliefs. Only we trust the experts will have better luck in proving their point in the cigarette-forest fire controversy than they have had in convincing people as to the correctness of their theories in regard to the influence forests have on weather and streamflow.

-------#-------

WAR AND FIRE

Solution of the fire problem appearing in January 19 issue.

By J. L. Lincoln, Sitgreaves

Objective:

To control fire with force available in shortest possible time.

1. Attack at a point where the arrow "wind direction," if extended, would reach edge of fire.

2. One road foreman will take 15 men and work line as close to fire as possible in southerly direction; the other, with 5 men will go the opposite way.

3. Hold every foot of line worked, and stay with the job till relieved. Supper will be served on the fire line about dark and again at midnight, then a few hours rest.

4. Phone from Hostetter Bridge for those 30 sawmill men, tools, and provisions for 36 hours; establish main supply base there; provide for fire camp at Old Cabin, where the 30 will report (if not stopped at Hostetter Bridge) and be put on the line, 3/4 of them on west side, balance on east. Brown is to be on the job somewhere, or everywhere, in full charge; the guard, who is supposed to know the country, will scout along Wilson Ridge and report at intervals to Brown of the conduct of the fire. The fire is to be controlled somewhere between Wilson Ridge and Smokehouse Creek, as soon as the east side and west side crews can connect.

-------#-------

ON SIGNS

By Jno. D. Guthrie, D-6

Is there such a thing as a standard fire sign? When is a fire sign standard? What is meant by standard signs? Should the use of standard fire signs be optional with District officers, Forest Supervisors, Forest Rangers, and Fire Guards?

These questions are forced upon one's consciousness after a field trip. You go into a ranger district and you find no cardboard fire signs but only the metal Reward sign. Why? Because the Ranger doesn't like the color of the yellow cardboard signs; he likes the ones printed in red or green - on white cardboard. You go into another ranger district and you find no Reward signs at all - in fact hardly any of any character. This Ranger had up a lot of the Reward signs, but a member of the Washington office was on his District once and remarked that he didn't like the psychology of the Reward sign, that it implied that fire carelessness was in the same class with train robbery, burglary and murder - and so this Ranger figured he'd better tear down these awful things on his District and so he did - systematically.

On another ranger district, a District officer came along and criticized the Ranger for having too many signs, and so this Ranger got scared on signs and doesn't put them up any more.

You go into another District and you find no signs up on the trails that are the most popular on the Forest. You find State Game signs well posted. The Ranger says he asked for some but couldn't get any. The Supervisor has some in his storeroom but he wanted some other kind, and so didn't send out to the Ranger what he had.

To go back to standard fire signs - the Forester's office decides what are standard fire signs for the Service; most of these are of metal. The District office decides what are to be the standard cardboard fire signs for the District. These cardboard signs are largely of a temporary nature; they are supposed to be renewed at least once each year. D-6 has issued a number and has changed them from year to year, for variety's sake.

Some of our fire signs are designed for certain places and are entirely unsuited for other places. A sign with considerable printing, or in small type, is useless on an auto road and was never intended for such a use, but only for trails or camp grounds. Another D-6 yellow sign was intended for use in a railroad smoking car only. Some person with a depraved sense of humor (or none at all) posted one of these on a most inaccessible point on the top of the Cascades! A sense of humor is a most valuable asset, but there's no joke in forest fires - nor fire fighting!

Fire signs are designed, are printed and are sent out to the field with the sole idea of being put up in the Forest to be read by the public. They will certainly not accomplish their purpose by being left in the basement of a Supervisor's office or in the Ranger's storehouse. You may not like the placing of the punctuation on a sign, you may not care for the wording; the yellow sign may make you see red - all of which is too bad, but just remember this one point - fire signs are put up to be read by the public, to help remind the camper, the fisherman, the hunter, the tourist, the forest user, and not Forest officers. If a fire sign is posted where it belongs, and if it is legible, the public is pretty apt to see it and read it, and be influenced (perhaps subconsciously) by it. Give the fire sign a chance in the woods!

-------#-------

WASHINGTON NOTES

The Annual Chess Tournament began with the following cerebral athletes attending: Don Bruce, J. W. Boyce, Ed Munns, D. F. McGowan, W. B. Greeley, Ted Gill, [illegible] Burkholder, and E. E. Carter. The most notable addition to the Washington chess force this year is that of Don Bruce, inventor and chief exponent of the Armistice Day Gambit.

- - - - - - - -

Forestry School in Italy: There has been recently established by governmental decree a School of Agriculture and Forestry at Florence, Italy, to which will be attached the Silvicultural Forest Experiment Station. The general administration of the school and station will be under the Ministry of Economy. A four and five-year forestry course will be given at the school and graduates of the forest school will be qualified for technical posts in the Italian Government Forestry Administration without a further examination.

- - - - - - - -

It was New Year's Eve. A forester and his friend were discussing over their pipes the merits of a life of service to others. Said the forester's friend: "Public service is a worthy work, but it has two disadvantages. The compensation is apt to be small, and people are often unappreciative. I have no false altruistic ideas of service, and feel that the world owes me a living. This year I made $10,000. Can you name 10,000 individual and separate sources of satisfaction equal to mine?"

The forester replied: "I planted 10,000 trees."

-------#-------

FOREST PRODUCTS LABORATORY

Chestnut Proving Satisfactory for Corrugated Board: Tests on the experimental paper machine in the Pulp and Paper Section and tests on commercial paper making machinery have produced a chestnut fiber board which has proved very satisfactory for container corrugations from the standpoint of quality of board and ease of operation of the paper machines.

Some of the commercially produced chestnut pulp has been made into corrugated fiber shipping containers. These are being tested in comparison with similar cases in which straw board is the corrugating material. One set of tests is being carried on in the Forest Products Laboratory's container testing division and the other by the National Container Association at the Mellon Institute in Pittsburgh.

Amendment of the existing specifications for corrugated containers by the appropriate railroad committee authorizing the use of chestnut board as well as straw board is all that is awaited by the Laboratory's cooperator in the chestnut studies before the installation of a small commercial plant for the manufacture of the board.

- - - - - - -

Kiln Drying Course for Arkansas: Two dry kiln courses are to be given in Arkansas by the Laboratory in cooperation with the State Department of Education. The courses will be financed partly from tuition fees paid by the men taking the course and partly from Federal funds granted under the Smith-Hughes Act.

One of the courses will be on hardwoods and the other will be on softwoods.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Recreation de Luxe: In the back country in the southern part of the Absaroka National Forest the Silvertip Corporation has erected what is reputed to be the costliest private hunting lodge in the world.

It is built of lodgepole logs left in the round with the bark on the outside and 'leopard spot' peeled on the inside. The architectural scheme provides a gigantic, high-ceilinged living room in the center, with lower-built wings extending to the north and to the south for sleeping quarters, and for dining room and kitchen. The living room is decorated with the heads and antlers of many big game animals, while a mammoth fireplace large enough to hold a full cord of wood promises evening cheer to weary sportsmen. An attractive feature of the sleeping quarters is that each room has the appearance on the interior of being an individual cabin, although in reality it is a part of the whole big structure. There are six of these sleeping rooms divided into three suites, with a fully equipped bath room between each suite. Each sleeping room is equipped with rustic furniture manufactured from lodgepole pine or aspen. In the dining room is a massive table hewn from a single fir log which will easily support a barbecued buffalo. The kitchen is fully equipped with every modern convenience. An electric light plant and steam plant furnish light and heat.

The manager states that the lodge and private grounds on which it stands cost the owners $200,000.--G.E.M.

- - - - - - - -

Montana's Largest Big Game Refuge: A publication has just been issued under the above title, which relates to the Sun River and Spotted Bear Game Preserves on the Flathead and Lewis & Clark National Forests, the two being contiguous and forming in reality one great sanctuary. The folder consists of one sheet 10 x 14 inches, folded to the size of a small letter envelope. It contains a map of the area, with the information concerning it, and an estimate of the game on the back; also the six fire rules. Those men who have had inquiry in regard to this section of the country may wish to have a few of these maps to pass out. Some of the best elk hunting in the State is to be had along the borders of this preserve, and people go from great distances to hunt elk both in the South Fork and in the Sun River.

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Forestry Legislation in Colorado: At a recent joint meeting of the officers of the Colorado State Forestry Association and members of the District office, legislative measures needed in the cause of forestry were discussed. The endorsement of the association was secured,-

1. For an amendment to the present blanket restriction on stream driving in streams containing fish within the State.

2. For an Act which will enable the State to cooperate with the Federal Government under the provisions of the Clarke-McNary Act.

3. An Act relating to slash disposal on private land.

4. An amendment to the present law relating to the liability of railroads which will include cost of suppression with damages for fires started by railroads on land outside of the National Forests.

5. An Act providing for a State forest fire organization built up around a nucleus of county sheriffs working under the direction of the State Forester.

In addition to the endorsements of these measures by the State Forestry Association, it was agreed that this organization would take the initiative in securing support for these measures during the coming session of the legislature.

* * *

DISTRICT 3 - SOUTHWESTERN DISTRICT

Blue Jacket Mining Claim Invalid, Land Office Rules: Ore of sufficient promise to induce a prudent miner to expend further money and time must be found in place on the individual claim for which patent is applied. Decision has been received from the Register and Receiver of the Santa Fe Land Office in the case of adverse proceedings brought by the District Forester to establish the invalidity of the claim of Frank J. Wesner of Las Vegas, New Mexico, to what is known as the Blue Jacket Lode Mining Claim. Wesner applied for patent and produced samples from an adjoining mine which in the past has developed some pay ore, but failed to substantiate his contention that the Blue Jacket claim offers hope of development into a paying mine. The claim is held for cancellation.

* * *

Supervisor Says Rangers Should Identify Diaries: Since all Rangers on this Forest are now typing their diaries, declares a certain D-3 forest bulletin, they should head the first sheet of each month so as to show Ranger's name and month. In explanation of the request the bulletin continues with, "You see before typing was done, we could tell at a glance whose diary it was even though we could not read it. Then for a while we could make a good guess at the typed diaries by the plugged up letters but we have been fooled lately due to some one cleaning the type.'

* * *

This Ought to Settle It: In a mild effort to arbitrate the controversy going on in the SERVICE BULLETIN as to whether a Ranger should do his work from a car or from the less comfortable back of a horse, comments the Crook Forest, "We suggest that an arrangement observed on the road a few days ago be considered. A Ford loaded with a camp outfit was hauling a trailer in which was a horse ready saddled. Such an outfit ought to suit both sides of the controversy, and there appears to be no reason why it should not be practicable in types of country such as this where good roads cross the broad valleys and encircle the mountains, but where the forest areas have no roads and are extremely rough."

* * *

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Timber Reports: The December 31, 1924, report of timber cut on the Standard Timber Company's 7/1/19 tie sale on the Wyoming Forest shows:

(1) Total cut to date, 1,465,646 R. R. ties, about ½ million feet of sawtimber (for camp construction), and 7,653 mine props.

(2) Total payments to date, $120,000.

(3) Stumpage rates, 6¢ per tie, $2.00 per M for sawtimber and ½¢ per L. ft. for mine props.

(4) $6,000 coop. brush disposal money paid in. (1924 was the first year under this plan.)

(5) 45,000 marked trees uncut (about 5¾ ties per tree).

(6) 76 choppers and 14 haulers on the job.

(7) 36° below December 29.

(8) 15" settled snow under 10" of new snow.

The Salmon reports a cost of 56¢ per M for administering cordwood sales in Pollard Canyon. These sales were by tree measurement. Eight hundred and ninety cords were sold. Costs are subdivided as follows: 42¢ for marking and tree measurement, 3¢ for brush disposal, and 11¢ for supervision. These costs are much lower than were the costs under the scaling or measurement sales and the results on the ground are much better.

Timber sale administrative cost report on the Jesse Creek Sale on the Salmon shows on a cut of 155 M ft. (244 cords of wood and 47 M ft. sawtimber) for the season of 1924:

Marking	14¢	per M
Scaling	12¢	" "
Brush Disposal . . .	6¢	" "
Supervision	14¢	" "
Total	46¢	" "

- - - - - - - -

Planning to Cross Cotton with Tree: Cultivated cotton may be crossed with a tree just rescued from complete extinction in Hawaii to make bigger cotton plants and take the kinks from the backs of cotton pickers. Such is the possibility foreseen as a result of the news received in Washington of the success obtained at the Department of Agriculture's plant introduction garden at Miami, Florida, in growing Kokia Drynarioides from seed.

There is only one other tree of this species in existence and that is the one from which the seed were obtained. It is a close relative to the cotton plant and, it has been suggested, may be of value, for crossing with the cultivated cotton.

But this cotton cousin bears about the same relation to the cultivated varieties as the famous beans Jack bought do to the ordinary garden kind; for Kokia Drynarioides reaches 15 to 25 feet in height with a trunk of six inches or more in thickness.

DISTRICT 5 - CALIFORNIA DISTRICT

Natural Reseeding: A small area of about eight acres of timber on the Fruit Growers Supply Company sale on the Klamath National Forest was burned over by a hot ground fire several years ago. In 1925 the timber on this area was heavily marked, because of very bad butt burns. As a result, the area was rather bare of seed trees and we were somewhat severely criticized by inspecting officers for this heavy marking. Mother Nature, however, acted friendly and sample plots taken this fall show a stand of from 900 to 1,200 seedlings per acre, evenly distributed, 60 per cent of which is sugar pine.

- - - - - - - -

Still, He Might have Guessed These: One of the Klamath Forest Guards went to work for the brush piling contractor at the Fruit Growers Supply Company sale area this fall. Tony had a new Star car on which to make payments, so he was very insistent on knowing just how long the job would last, and how many days a week he could work. The contractor took a look at the sky, which was spitting a little snow now and then. "I'll tell you, Tony, nobody can tell a thing about it, it's all up to Jupiter Pluvius." Tony looked puzzled. "Jupiter Pluvius? Who's he? One of those District Office guys?"

DISTRICT 6 - NORTH PACIFIC DISTRICT

O. & C. Lands: At a Kiwanis Club luncheon in Medford in December, County Judge Gardner requested the club to get behind a movement to have the O.& C. lands within the National Forest made a part of the Forest and put under the control of the Department of Agriculture, so that they could be administered economically and used properly without interfering with the use of adjoining National Forest lands. He stated that if this were done the community would be very much benefited.

Service Bulletin
U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 7. Washington, D. C. February 16, 1925.

"YOU CANNOT TEACH OLD DOGS NEW TRICKS"

By W. I. Hutchinson, D-5

We never fully realized the truth of this old saying until we broke into the Public Relations game. For ten years we have been hammering home one thought to Forest Service men - Publicity. Some of the results have been bad, others good, but at least a small part of the American public now knows that there are such things as National Forests and a Forest Service. It took nearly a decade to get a Weeks Law, and 20 years of waiting for a Clarke-McNary Act. Why? We all know the answer - the public wasn't interested in forestry; didn't even know that the United States had a forestry problem. And whose fault was that? Well, let anyone who thinks he wasn't partly to blame, heave the first brick. And where would the National Forests be to-day if it had not been for the publicity methods of Gifford Pinchot that stirred the country from the Atlantic to the Pacific? But here and there on Ranger Districts, National Forests, and in District Offices we can see little flickers of hope. The old idea of keeping everything you know under your Stetson is dying out, and it's a good thing for forestry and the Service, too, that it is.

Now to get down to business - in other words, to the backhand slaps that have been appearing in the SERVICE BULLETIN on the volume of publicity which ran in southern California newspapers during the San Gabriel fire on the Angeles Forest. First, in answer to the critics, we may state that all this "spread" in the newspapers resulted without any solicitation or release of press items by the Forest Service. In other words, the papers and press associations viewed the fire as "big news" and played it up as such, because people were interested. Second, we are not "bragging" about the San Gabriel fire, but we are rather elated over the fact that the papers and people of California have reached a point in education in forestry where they keenly appreciate the seriousness of forest fires and their detrimental effect on the welfare of the community.

A forest fire is news and big news in Swamp Hollow as well as in Los Angeles. If your papers do not play it up on the front page it is because their editors and readers are not interested, have not yet been educated to a realization of the fire menace, or look upon fires as a necessary evil. It may be that here is a chance for the critics to make use of their hammers for some other purpose than knocking. In California our citizens are mightily interested in the fire game, both prevention and suppression, and we aim to keep that interest at a boiling point all the time. But this solicitation for the forests and chaparral watersheds isn't all talk or newspaper stories, it is backed with a liberal supply of good hard cash. In evidence of this, District 5 yearly receives some $157,000 from lumbermen, public service corporations, railroads, and other interested agencies for the cooperative protection of privately-owned timber and brush lands within and adjacent to the National Forests. Further, as a result of the San Gabriel fire, the people of southern California stand ready to match the Federal Government dollar for dollar, up to $1,000,000, for the better fire protection of the Santa Barbara, Angeles, and Cleveland National Forests, which not only supply water to the richest agricultural counties in the United States, but are also the summer playground of several million people.

Does publicity pay? Well, perhaps according to the theories of the "old-timers" it doesn't, but it's a wise man who can see beyond his nose. Just the same it "brings home the bacon" as far as the California public is concerned. Of course the critics will roar that publicity has nothing to do with the results obtained in cooperative fire prevention. Maybe so, brother! You can't keep right on traveling in the old rut and hide your little 10-watt Mazda under your nine-gallon hat, then some day go out and try to interest the people of your State in some big cooperative Forest Service proposition that calls for the contribution of real money and not hot air, or try to interest your state legislature in enacting a comprehensive forestry program. When you get results, come around and we'll pat you on the back - providing we're not dead and gone long before then.

[illegible]

By Fred Morrell, D-1

The other day an ex-member of the D-1 organization commented to me on our style of address in letters. He said, 'Tom Jones and I have known each other for a good many years. We have been in the hills, and bunked and ate and played together. We have called each other 'Tom' and 'Dick' since I can remember our friendship. He is now boss man in a Forest Service office and I am working for a corporation with a long name. I wrote him recently for a little information that I wanted - sort of informal, semi-personal - and addressed him 'Dear Tom.' His reply was addressed -

'The Frederick Thompson Transportation Co., Inc.,
'Big Town, Montana. (All names fictitious.)
'Gentlemen:
'Your letter of blank date is received.'

"Then he gave me in very nice fashion the information I wanted. But why did he write such a formal, stilted address instead of just saying 'Dear Dick'?"

"Dick" went on to say that he thought the Forest Service sometimes leans over backwards in formality of its letters; that that formality is not in keeping with the attitude of Forest Service men when the public meets them. He thought it often gives the impression that we are an offish sort of tribe and that it works to our disadvantage.

I am inclined to agree with him. We must keep dignity and poise in our letters but that doesn't mean that they need be stilted, or lack the touch that should make the recipient feel that he'd like to see the fellow who writes them. Maybe it's something that we need to think about a little.

[illegible]

Apropos of Fred Morrell's suggestive article, it might be appropriate to include in this issue a letter which proves that not all of our correspondence wears a high hat and spats. It is from Supervisor Marsh of the Shenandoah and written to his forest users.--Ed.

"Dear Friend:

'I am probably no different from all the rest of your correspondents - I have been intending to write you every day, but have just been too busy. And my "busyness" has consisted of making up reports, maps, etc., showing how we have spent our time during the past year, and since I have the statistics behind them to back facts, I can't resist the temptation to pass some of them onto you. Don't get discouraged, but read and consider them a little, and feel pretty proud of your Forest - I am.

"We have within the forest boundary 100 miles of road, 400 miles of trails, and 174 miles of telephone lines on which we have spent $51,000 for construction and maintenance during the past year. In addition to this, the receipts this year from timber sales, grazing, etc., amounted to $16,000, and 25% of this comes back to you through road, trail, and school funds.

"In comparison with these figures we have had during the calendar year 1924, nineteen fires, four of them caused by lightning, burning 182.5 acres of National Forest land, on which we have expended less than $600. Doesn't that look pretty small beside the $51,000 spent for construction work?

"We were able to handle our district this fall almost entirely with our warden system, and this has so encouraged me that in making up estimates for our fire protective work during the coming year I have made a cut of several hundred dollars. And that is where you come in. If, with your help, we can reduce the time and expense of fire protection and suppression, there will be just so much more for road, trail, and other worth while work, and we will certainly see that it is put there.

"Have you been keeping up with the Clarke-McNary forestry bill which has recently passed the Senate? This is considered the most forward step yet to be taken in the interests of forestry, and as I know you would like some first-hand information about it, I am enclosing a brief synopsis of its provisions. Is there anything further you would like to know about it? If so, I am here to answer your questions. Let me hear from you anyway."

-------#-------

THIS IS MY OPINION OF POWER PUMPS

by L. A. [illegible]

As a protection to railroad trestles, irrigation flumes, buildings, and so on, power pumps are certainly the thing; for three or four men can handle one perfectly. They throw an immense amount of water under a heavy pressure. But, when it comes to holding a line or to mop up with one, that"s a different thing. Two men are supposed to carry one and they can as I can testify, but stumbling and falling down a hill with one swung on my shoulder was not much of a joke. Then, there are twenty sections of hose to string out and it takes at least fifteen men to move it when it is full of water. Whenever a section of hose is added the engine has to be stopped and started again - perhaps.

It takes a good half day to wet down one thousand feet of fire line, and I say that if it takes that long to mop up that much line with fifteen men it's not a very dangerous line to hold and two patrolmen could easily hold the same line.

On the North Bloomfield fire in California, on a spot fire about sixty yards in diameter that had been controlled, my crew of fifteen men spent at least two hours wetting it down until not a particle of steam or smoke was visible. And I even went so far as to place my bare hand in places where I thought there might be fire. I was very particular about this place on account of its location. I said the fire was dead, but the next day at eleven a. m. it was going strong and that time it was not controlled or held by any pump.

If I had put one patrolman on that little spotfire in the first place I would have saved the Forest Service at least eighty man hours.

I say that if I have to put on a patrolman after wetting down a line, after this I will put on two and save myself the trouble of packing in a pump, hose, tools and gasoline.

The same thing also happened on the Lake City fire except that I didn't [illegible] be the one that let it get away, but I did have to spend a [illegible] night helping catch it.

WASHINGTON NOTES

Family Lectures: On February 4, Mr. Rachford delivered an illustrated talk on National Forest range management at the fifth of the present series of family lectures. [illegible] the film entitled "[illegible] Psalm and Sage" was shown. After hearing Mr. Rachford on this occasion we are satisfied that his middle name must be Eloquence. He is now [illegible], and we hope that at a later time he can be persuaded to tell us something about the origin and development of domestic animals, with particular reference to cattle, sheep, and horses.

- - - - - - -

[illegible] Starvation of Jackson Hole Elk, the Izaak Walton League has taken up the burden of raising funds to purchase winter feed lands. The elk which summer on the excellent ranges in the Teton National Forest are driven into the valley by the first storm of winter in search of food. It is necessary, therefore, to have these lands to furnish forage and to give the animals areas upon which they can winter without causing friction and loss of property by drifting to the ranches in the valley.

------#-------

[illegible]

[illegible] recently carried a news item emanating from the Crown-Willamette Paper Company, stating that they were this winter embarking on a program [illegible]. This will be the first extensive forest planting by any private company in the Northwest and is of signal interest as marking the beginning of a new era in the handling of logged-off lands. This big company already has an excellent system of fire protection, and much of its logged-off land is reforesting naturally with Sitka spruce, hemlock, and Douglas fir. They are to replant the lands which have been scourged by repeated fires [illegible]. This February and March 100,000 wild Sitka spruce seedlings, dug in the adjoining forest, are to be planted on the west side of Youngs River on land logged in 1916 and twice burned over. This is in the nature of an experiment, as the company realizes the difficulty of using wild stock. Next year plants will be available from their own nursery at Willamette, started this last spring and now to have a capacity of 700,000 trees annually.

It is interesting to note that in this District it is a paper company that is taking the lead and that artificial planting is the first direct step toward continuous forest production.--T.T.M., Pacific Northwest.

- - - - - - -

'Ain't Nature Wonderful?" Averill and Tinker, student assistants on the pine growth study, report measuring a slash pine plot on an old rice field, abandoned [illegible]5 years ago because the alkali in the soil was so strong that the negro laborers couldn't stand it on their bare feet! The pines seemed to like it, however, since the largest tree of the 175 on an acre was nearly 14 inches in diameter and 95 feet tall.--[illegible] Southern.

DISTRICT 1 - NORTHERN [illegible]

Dr. Schenck Lectures in Montana. An excellent and valued service has just been rendered to District One by the Forest School at the University of Montana. Under the auspices of the school Dr. C. A. Schenck, a Forester of international reputation and former head of the Biltmore Forest School, was engaged for a series of four lectures. Dr. Schenck's lectures dealt with Lumbering, General Forestry, Silviculture, and Forest Finance. The purpose of the lectures was clearly twofold, to arouse in his hearers enthusiasm and spirit for forestry work and to stimulate thought along forestry lines. In both of these directions it is considered that he was very successful.

- - - - - - -

Meeting with Timber-Sale Operators at Missoula: At the request of the Secretary [illegible] recently called to give purchasers of Government timber an opportunity to discuss with the Forest Service the general contract conditions and enforcement. The meeting was attended by [illegible] representatives from the District office, four Supervisors, and four lumbermen from the principal timber-sales Forests. About [illegible] of [illegible] Government timber were represented. The meeting was rather [illegible] as an indication that there is no serious feeling of dissatisfaction on the part of operators with Forest Service contracts. It did, however, present an excellent opportunity for the Forest Service to explain the various contract conditions and the reason for them. Some of the operators probably went through a timber-sale contract in detail for the first time.

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Big Planting Job on the Michigan: The largest planting operation that was ever conducted on any National Forest in any one season was completed October 30 on the Michigan. A total of 3,160 acres was planted at the remarkably low cost of $2.94 per acre, which includes the cost of the trees used. This is the cheapest planting that has ever been done on the Michigan Forest, and possibly by any Forest or State organization. The trees were planted approximately 8 x 6 ft. apart, and the average number per acre was 746. Six teams with sulky plows were used to plow furrows and the trees were planted with bars by the slit method. Because of the quantity of down material and brush, it was necessary to have swampers precede the plows to clear the way, but at that the plowing cost but 74¢ per acre.

A wage of $2.50 per day plus board, which cost 82¢, was paid to the men. This is higher than the going wage in that vicinity, but it was found profitable to pay a good wage and insist upon good work. The crew averaged 3,000 trees per man per day.

The amount planted is in excess of the authorized acreage, but the trees were available, and through sacrifices made on other projects and a very efficient operation, the job was completed. It is believed that 4,000 acres can easily be planted in an ordinary season with one organization, and as soon as funds are available a second planting organization will start work on the Marquette Division of the Forest. At that rate, the planting of the 60,000 acres of scrub oak and jack pine sand plains on the Michigan Forest can soon be completed.

DISTRICT 3 - SOUTHWESTERN DISTRICT

Fire Warning on Game Licenses Should Reach 22,000 Persons: Report of the State Game and Fish Warden for New Mexico shows that in the fiscal year December 1, 1923, to November 30, 1924, the State sold 22,105 licenses for hunting or fishing. Arrangements were recently made with the State Game Department for the printing of a forest fire warning on the 1925 licenses which will read, "When hunting or fishing, be careful with fire in the forest. See that your match [illegible] stubs are out and put out your camp fire." There is no reason to suppose that the number of licenses that will be sold in the coming year will be appreciably less than that for last year; so the warning should put "care with fire" freshly into the minds of a goodly number of persons who can make profitable use of it.

- - - - - - -

United States Marshal May be Instructed to Remove Cattle. Federal Judge Sawtelle in his dealings with trespass cases on the south end of the Apache National Forest has reached the point where he has indicated that, if the owners of the trespass cattle fail to remove them from the forest by spring, the court will grant the Government an order for removal by the United States Marshal. The defendant trespassers and their creditors must be made to realize that the rights of the Government in the matter of trespass cattle are to be recognized and that the Forest Service has the power to compel the securing of grazing permits and the paying therefor or the removal of trespassing cattle from the Forest.

------- -------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

How Far Have We Gone? John Clay states that in 1872 there were no American stockmen around Cheyenne, Wyoming, which was at that time the center for livestock operators in the West. A study of permittees to determine the number of alien, or naturalized citizens, brings out the fact that one-third of our sheep permittees are either alien or naturalized, and that of the 200,000 head preferences practically 100,000 is owned by these permittees.

In cattle permittees we have 9,354 of the 50,000 head preferences held by this class of permittees. We are wondering how long it will be before we have native American owners and operators of the livestock business.--Humboldt.

- - - - - - - -

That Makes th[illegible]: [illegible] of a letter from a commercial club in Idaho, written to one of the Supervisors begging for the extension of a road which has been started back into the mountains, has been forwarded to the District office with the following note [illegible]:

'Charlie Evans, forget the Thunder Mt. country for a minute and look me in the eye!!! If the plea of this chap doesn't loosen your purse strings as it has tugged at my heartstrings, then you are a cold-blooded miser and I will shoot on sight. Have a heart, now, Charlie, and allow this fellow and these excellent people to be with [illegible] all the way to the South Boise. Thank you, old scout.'

The signature, we may add, is undecipherable.

------- -------

DISTRICT 5 - CALIFORNIA DISTRICT

Better Fire Protection on Timber Sale Areas: One of the lessons taught us as a result of the 1924 fire season is the necessity for tightening up on fire precautionary measures in sale agreements.

A sample agreement in connection with a proposed sale of about 32 million feet in the Soquel Unit of the Sierra contains a number of changes in current procedure in this respect.

Most important of these is the provision for a fire plan for the operating area which is to be attached to and made a part of the agreement. This fire plan will contain in detail the organization for fire protection work and will provide that the members of this organization, including fire chief, watchmen at donkeys, and patrolmen will be under the jurisdiction of the Forest Supervisor. The purchaser will be required to furnish sufficient deposits in the cooperative fund to cover the salaries and other costs incident to this work.

Among other important changes in current requirements are the following:

1. Provision for clearing donkey settings in excess of a radius of 100 feet in instances of excessive fire hazard.

2. Wetting down around donkeys at least once a day during the fire season.

3. Donkeys to be equipped and operated with the exhaust outside the stack when required by the Forest officer in charge.

4. Injectors in place of force pumps will not be permitted for fire protection purposes. Capacity of force pump must be such that with 200 feet of hose attached on level ground it can throw a stream 50 feet beyond the nozzle.

5. One hundred feet of hose with nozzle attached will be coupled to the connection on pump at all times. In addition to the regular fire fighting equipment at donkeys either a 5-gallon pack can with attached hand pump or a suitable chemical fire extinguisher will be furnished.

6. Moving donkeys on flat cars instead of by their own power whenever practicable.

7. Clearing and keeping clear of inflammable material all railroad rights of way for a distance of at least 50 feet on each side of the center of tracks.

8. No smoking during fire danger periods except at places designated by the Forest Supervisor.--J. D.D.

DISTRICT 6 - NORTH PACIFIC DISTRICT

Washington Leads Again: Washington again led all the States in lumber production for 1924. The Washington State Department of Labor is responsibl for the following data on total pay rolls of the lumber and pulp industries of Washington for 1924:

Industries	Pay Roll	Days	Men
Logging	$ 51,934,919	9,045,432	34,623
Saw & Shingle Mills	51,415,866	10,950,345	42,646
Woodworking Plants	13,377,368	3,023,163	10,020
Paper & Pulp Mills	2,928,859	625,745	2,092
Total	$119,657,012	23,644,684	89,581

- - - - - - -

Four Hundred New Growth Plots: The Douglas fir yield study party of the Northwest Experiment Station is now in Portland computing the data obtained in the field during the past four months. Approximately equal periods were spent in Washington and Oregon, and over 400 sample plots wer measured. When these figures are combined with the 1910-11 data and those to be obtained next year the measurements of over 2,000 plots will be ava able as a basis for the construction of a yield table for Douglas fir. Such a table shows the yield per acre now and for definite future intervals. It gives the rate of growth at different ages, shows during what periods of its life the tree grows most rapidly, and when it begins to sl down. For tax reform, intelligent investment, and forest management, suc data are indispensable.

- - - - - - -

Humors of Ranger Exam. Papers:

Q. In building a lookout station on a high peak, above timber lin what would be the determining factor whether lumber or logs would be used?

Ans. The Forest Supervisor.

-------*-------

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 8. Washington, D. C. February 23, 1925.

A PLEA FOR THE PRIMEVAL

By Thornton T. Munger, Pacific Northwest Exp. Sta.

When Mr. Average American decides to go westward for his vacation and recreate in the National Forests and National Parks, it is not to see the works of man. He goes to see the natural wonders of Nature, snowy mountains, forest bordered lakes, primeval woods. He wants to breathe the ozone of the high forest and say "This is the forest primeval, the murmuring pines and the hemlock." That is what lures him - the call of the wild, the "back to Nature" urge. It is not the opportunity to see the accomplishments of some technicians who want him to admire their handiwork - neat brush piles, firebreaks, skillful leaving of immature trees, solitary seed trees amid a bleak expanse of stumps, or saplings struggling in the blackened debris. The recreationist knows what he wants, and he should have it. Why should not his desire be satisfied to have the woods along the roads that he must travel left with their natural charm unspoiled? Is it not presumptuous of foresters to believe they can change human nature and make tourists prefer to see "What we want them to see" - logged-off land instead of primeval woods? Who can prove that visual lessons in silviculture are better for the city jaded vacationist than drives through the shade of overarching forests?

Good foresters, of course, never want to miss an opportunity of propagating a sympathetic understanding of forestry. But what is forestry? It is not simply methods of cutting. Forestry embraces all uses of land for all kinds of users. The spiritual uplift, the exhilaration, the inspiration that springs from primeval woods may be quite as valuable for our country's prosperity as the lumber of these trees. Each must have its proper place; no one be universal. If recreational use of the forests is an integral part of forestry, how can recreation be "a definite menace to the practice of forestry?" Why is it not for the public, rather than enthusiastic devotees of the marking ax and glommers of stumpage receipts, to decide what use these roadside strips shall be put to? Visitors to the National Forests may be more readily converted to the cause of forest conservation by a strip of virgin timber reserved along their highways than by examples of good silviculture.

There will be plenty of areas to show off and demonstrate our silvicultural systems of cutting to the groups that should know about this subject, without carrying National Forest cutting to the very edges of the highways and lakesides and haunts of the campers. And anyway some of the perfectly good silviculture on the National Forests looks to the casual traveler like ruthless devastation; blackened stumps and debris catch the eye quicker than reproduction. The shade of the unbroken woods is pleasanter than that of saplings on a summer day. The thriftiness of seedlings that might thrill the forester's heart would not atone with Mr. Average American for the loss of a roadside landscape of primeval veterans.

Have American foresters so soon forgot the lesson of Axton?

-------#-------

WE DIFFER - MR. SWARTZ

It is with sincere regret that we note the predicament in which our old friend, U. S. Swartz, found himself as a result of his scheme of attack on the Smokehouse Fire. As a result of a change in wind direction the fire crossed Wilson Ridge between his control lines, forced their abandonment, and he must now attempt to hold it along Smokehouse Creek and White River.

The Board of Review believes this to be due to the following causes:

1. The entire plan of attack was based upon the report of a smokechaser who must have traveled at least 6½ miles in rough going during a period of two hours in order to revisit the fire and return with a report for the Ranger, as instructed. The Board does not believe that a report obtained under such conditions could be considered very seriously.

2. By commencing work at the alder swamp and endeavoring to cut off the fire before it crossed Wilson Ridge, the Ranger committed himself to a plan from which he could not deviate and sacrificed all opportunities to make strategic use of the long firebreak afforded by the swamp and the Smokehouse Creek road.

3. By commencing work at the foot of Wilson Ridge the possible line production of his crew was reduced at least 1/3 (this is the usual difference in time between "uphill' and 'downhill' line construction). Also such a line could not be safely back-fired until entirely completed and then only by starting on top of the ridge and burning down.

4. By placing 7 men on top of Wilson Ridge a gap was created in the control line at the point of maximum spread on the fire. thereby jeopardizing the work done by both crews.

The Board believes that this fire could have been brought under control had the Ranger established his camp about 2 miles up White River from Hostetter Bridge, taken his road crews and smokechaser to the top of Wilson Ridge (a hike of 1 mile and fair traveling conditions), and made the southeast corner of the fire his pivotal point. He could then have taken a look at the fire himself and started five men working back along the edge of the fire from its head and the other fifteen along the top of the ridge in the direction the fire was traveling. If it was found, after getting some distance ahead of the fire, that the fifteen men could trench faster (through reproduction and down timber) than the fire would travel they could have swung down slope in the general direction of the lower end of alder swamp. They would not have been forced to reach the creek or swamp at any particular point and could adapt their course to progress of the fire with little lost motion.

Arrangements having already been made to bring the mill crews to camp and the plan of action decided upon, the smokechaser should have been sent back to camp with instructions to bring up ten men from the mill crew for night patrol and back-firing work. The remainder of this crew should have been directed to remain at camp and prepare for a daylight start. With this done a trip around the fire should have been made to give first-hand information of conditions. The effort should have been to reach the swamp or creek at the head of the fire (with back-fired line) sufficiently in advance of blaze to back-fire from creek bottom. Patrol could then have been established along Smokehouse Creek to watch for possible spot fires which might start from flying embers. Other parts of fire could have been cared for upon completion of this work.--By the Solway Board of Review, J. C. Urquhart, Chairman.

-------#-------

THE A B C'S OF RANGE MANAGEMENT

By C. L. Forsling, Great Basin Exp. Sta.

Admit stock when the range is in vegetational readiness and not before.

Beware of overstocking and too early use. They are the root of much evil.

Calculate the carrying capacity of each unit of range and stock accordingly.

Distribute cattle properly at the time they are turned on the range.

Establish salting plans with the view of proper distribution of cattle and even utilization of the forage.

For every 500 to 1000 head of cattle have one rider to look after them.

Give every herder instructions as to how he is to use his allotment.

Have sheep herded openly and quietly and bedded where night overtakes them.

Install the deferred and rotation system of grazing to improve and maintain the forage cover.

Join range users together in associations to handle their stock.

Know the important plants of the range, their forage value, growth requirements and symptoms of overgrazing.

Let protected areas and sample plots help you in judging conditions and use of the range.

Make regular inspections to note conditions of range and livestock, and observance of rules by users.

Nab the trespasser as quickly as possible.

Observe any grazing injury to tree reproduction that may be occurring and take steps to prevent the damage.

Prevent forest fires, it pays.

Quietly promote the cooperation and interest of users in the welfare of the range.

Reserve sufficient forage for game and allow for recreational use.

Succeed in obtaining a reliable record of the range resources and how they are being used, and decide how they may be utilized, improved, and developed to better advantage.

Thoroughly familiarize yourself with poisonous plants and methods of range management to avoid losses from them.

Unite your policy, objectives and plan of grazing and developing the range into a range management plan for your future guidance and the guidance of your successor.

Verse yourself in the results of grazing investigations and the latest developments in range management.

Watch the working of your grazing plan to determine where it might be improved.

Xtend the gospel of good range management whenever opportunity affords.

Yield not to the temptation of a little feed left well distributed over the range at the close of the grazing season. It is insurance against overgrazing, damage to watersheds, and dry years.

Zealously practice these A B C'S of range management.

-------#-------

WASHINGTON NOTES

By Way of Honorable Mention: The following note by Mr. Rachford of the Branch of Grazing on some copies of Range Management Plans Lessons and Discussions from District 2 ought to warm the cockles of some men's hearts in that District.

"This course is getting better with each lesson. It is one of the best efforts ever made in the Service to bring Range Management out of the realm of mystery and strip it of all technicalities. It gets us down to earth and deals admirably with the job we have to perform. It seems to me it could be accepted as a Service-wide course. It does not seem desirable to have other men in other Districts working their brains overtime with such a piece of work already developed."

- - - - - - - -

American Forest Week: Former Governor Lowden of Illinois has consented to head the executive committee which has charge of AMERICAN FOREST WEEK. The date for this week has been changed to April 27 to May 3, inclusive. The American Forestry Association, General Federation of Women's Clubs, Izaak Walton League, and the National Lumber Manufacturers Association have joined with the Forest Service in forming a general committee of about 100 representatives of national societies and associations.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Empty Words:

Dire confusion reigns in the ranks of the silviculturists. It is gravely feared that when the trees now marked have been cut, timber sale activities must be indefinitely suspended. Along comes the Washington Office with a circular letter long as a State road, dated December 15, 1924, and changes the names, the scientific names, mind you, of a lot of trees. Just now no one feels quite certain what he is marking. For example, how many men in D-1 could, with confidence and aplomb, go out and mark a Picea glauca albertiana, a Populus trichocarpa hastata, or a Fraxinus pennsylvanica lanceolata if requested to do so? Don't it beat - well, it sure is tough, anything to disturb a man's peace of mind and keep him from getting mentally established. Study courses, crossword puzzles, new tree names, revised property lists - what next?

D-1 didn't fare so badly in this innovation. None of our commercially important trees have changed names and in the three new names most of us can recognize a linguistic if not a botanical relationship to something we have heard of before. Think of the poor woodpecker back in the

Lake States who has to learn new names for jack pine and white spruce and of the one in D-7 who is confronted with 18 new names all at once. Well may he pause with suspended hatchet.--H.R.F.

- - - - - - -

Fire Propaganda Shows Results: That the slogan, "PREVENT FOREST FIRES," is getting over even to the younger generation is proved in at least one instance by the following:

Eddie, aged four and one-half years, recently accompanied his father to the Bitterroot River to await the return of a friend from a duck-hunting trip down the river by boat. The weather being raw, a camp fire was built on the shore. After the arrival of the hunter, the boat, guns, etc., were carried up to the car and loaded, but Eddie did not put in an appearance. Several calls failed to bring a response. Returning to the river and the camp fire, the men found the little fellow much begrimed with ashes and dirt, industriously and proudly working at the fire. When asked if he had not heard the calls, he replied, without ceasing his labor, "Yes, but Daddie, you forgot to put your camp fire out; see, I have it all out but these few coals." These he had not been able to extinguish with dirt and his little hands.

Overlooking the fact that the time was mid-December, and the fire in the open near the river, we are reminded that our efforts in teaching the children fire prevention are not in vain.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

The District Investigative Committee, consisting of members of the District Office and the Fremont Experiment Station staff, Professors Morrill and McCarthy of the Colorado Agricultural College and Professor Gordon Parker of Colorado College, recently held its annual meeting. There was considerable discussion regarding the new plan of having branch stations or centers of work where all research work, except that done at the Experiment Station, will be carried on. This is in decided contrast with the plan which has been followed in this District for years of establishing plots on any Forest where there is need for information on growth, methods of cutting and other problems. Under the former system a large amount of assistance has been secured from local officers, and it has been responsible in part for arousing considerable interest among the field men in research work.

There is a large amount of contributed time to research activities in D-2 from the administrative forces. On one study, which was conducted during the past year in cut-over areas, about 50,000 trees were calipered and 10,000 were bored to secure growth figures for use in management plans.

This study was conducted in 15 Forests. During 1924, seventeen plots were established on 10 Forests to determine the effect of grazing upon reproduction and there are now 21 plots of this nature on 11 Forests throughout the District.

Other lines of work discussed were fire protection studies, planting and erosion.

--------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Competitive Bids: During the Fiscal Year 1924, 189 sets of bids were received in District 3 exclusive of the one-bid cases, with 518 dealers participating. The saving in money was more than $13,000.00 with an average of 15 per cent. The average saving in forage was 12%; equipment 26%; telephone material 28%; culverts 16%; provisions 8%; etc. In arriving at these figures, the lowest and highest bids were considered on the ground that in a number of cases only two bids were received and that in others there was not a great deal of difference between the highest and those next to it. It would not be fair to presume that the purchasing officer would have bought at the highest price without bids, but another important point is that the prices might have been considerably higher than the lowest bid in the event bids were not received. Bids may not in every case procure the lowest price at which a commodity can be purchased, for a recent case - on the Sitgreaves - showed only one bid received for hay at $30 a ton. It was rejected and open market purchase made at $22 a ton.

- - - - - - -

Boundaries of Three Forests Changed: A million acres comprising the Luna, Reserve, Mangas, Jewett and Tularosa Districts of the Datil National Forest become part of the Apache Forest and a half million acres of the Apache - all that portion south of the Mogollon Rim - pass to the Crook Forest in a new forest boundary alignment which is to be effective March 1.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Big Money: The ten head of horses taken in Butte County in the November horse round-up were sold at Arco January 30, 1925, on account of taxes, under the Idaho Estray Law. These horses brought an average price of $6.80 per head.

The average expense per head was $5.60, divided as follows:

Per Head	Amount
Feed bill	$2.47
Advertising	2.40
Delinquent taxes	.73
Total per Head	$5.60

They netted the county a net profit of $1.20 per head.--Lemhi.

- - - - - - - -

Wolf Creek Timber on the Uinta Forest, the sale of which has been expected for some time, has finally been disposed of, Mr. Joseph Turner being the successful bidder. This body of timber consists of 3,470 M feet of Engelmann spruce, 1,665 M feet Douglas fir, 340 M feet of Alpine fir and 120 M feet of lodgepole pine, or a total of nearly six million board feet. Two dollars and a quarter was bid for all species straight through. The spruce will be sawed for local trade, while the fir will be used largely in supplying Park City mines with timber.

DISTRICT 5 - CALIFORNIA DISTRICT

Another Large Sale on the Stanislaus: The Standard Lumber Company has been declared the successful bidder for the timber in the Punchbowl Unit on the Stanislaus Forest. The stand is estimated to be 73,471 M feet B.M., comprising 26 per cent sugar pine, 22 per cent yellow pine, 45 per cent white and red fir and 7 per cent incense cedar. The stumpage rates are $4.00 for sugar pine, $3.25 for yellow pine and $.50 per M for other species.

The appraisal contains a liberal allowance, exclusive of brush and snag disposal, to cover special requirements for reducing logging damage and for fire protection. In addition to the standard fire protection requirements the agreement will provide for the employment of a fire chief from May 1 to October 15 of each year and a tank car kept ready for instant use in suppression of forest fires. During 1925 oil will be used exclusively for fuel in one yarder, one swing and one loading donkey engine, and should oil prove satisfactory it will be used exclusively on the sale area during the remainder of the contract period.

During the 1925 season, the Forest Service will attend to piling and burning the brush. The purchaser agrees to deposit sums not to exceed 75 cents per M foot B.M. to cover the cost of this work. If after one season's trial, this method of handling slash disposal proves to be satisfactory, it will be continued throughout the sale period. Otherwise the purchaser will be required to handle this work in the usual manner after the 1925 season.--C.E.D.

DISTRICT 6 - NORTH PACIFIC DISTRICT

The Billionth Foot: On December 20, 1924, the Port of Grays Harbor, Wash., hailed its billionth foot of lumber. With more than a billion feet in the cargo trade and more than 400,000,000 ft. in the rail trade, the sawmills of Grays Harbor rounded out 1924 with a shipping total of over 1,500,000,000 ft. of lumber. There was a great celebration over the Billionth, but forward-looking lumbermen and business men of that region are wondering where the future raw material is going to come from to keep up such a record!

- - - - - - - -

Addresses: District Forester Granger gave a talk on December 5, 1924, before the Portland Post, American Military Engineers, on "The Work of the Forestry Troops in France." On January 8, he spoke before the Annual Meeting of the Oregon State Chamber of Commerce on "A Forestry Budget for Oregon," on January 1. before the Oregon Wool Growers, and on January 28, before the Portland Ad Club on "Forestry on the Pacific Coast"; this last meeting was devoted to Lumbering and Forestry. The Advertising Clubs of the World have recently taken up forestry as one of their main objectives.

- - - - - - - -

First Cord: The Columbia Forest, in December, 1924, advertised its first cordwood sale. A minimum price of 75¢ per cord has been set for the estimated 2306 cords involved. It is probable that bidders will be local men who will operate mostly in the fall and winter months for the next two or three years.

-------#-------

DISTRICT 7 - EASTERN DISTRICT

Chautauqua Lecturer Found: It having come to our notice that some person, or persons, is engaged in giving a series of lectures before the Biology and other classes of the local High School, pertaining to the general subject of Forestry and specifically taking up Fire Prevention and Suppression, and fearing that evil would result therefrom should the true facts of Forestry not be given, and instant and complete investigation was made by our Supervisor, with the result that the culprit was found and sentenced to take the position of Lecturer Extraordinary of the Nantahala Forest, to operate in the Forests thereof in North Carolina, South Carolina, and Georgia. The truth must out - Thomas W. Alexander, Junior Forester, has been discovered.

His first lecture was before the Science Class and he was allotted the full period - one hour. Later investigation showed that he spent full time and that he covered only half of Fire Prevention. Being ambitious and more especially not wanting to lose the best part of his oration on the desert air, he asked for permission to speak before the Biology Class next day. So next day he would up and sidetracked Fire Suppression in favor of his favorite - Fire Prevention - and then tried to act surprised when the bell rang for noon. It was while Alex was begging for the class in Basketball, in which he is a star of the first magnitude, that the Supervisor found him out and compromised with the Student Body by allowing him to orate one hour a week before Student Assembly.

Nor is this all. Even the churches have been disrupted. The young people pleaded so earnestly for him that he was given a place between prayer and collection, and he talked so long and earnestly that they forgot the collection. I don't know what would have happened to prayer if he had started first. It is too early to know the full returns, but we suspect the Farmers Association and Park Commission have both asked for his services. If anyone wants to see Alexander now on real business it is necessary to push away an admiring circle of long-whiskered gents and admiring children, tap him on the shoulder to stop his train of thought for a moment and shout the password, "Fire," and watch him then make a start for his trusty knapsack.

As an aid to his admirers in "tuning in" on these outbursts of wisdom the Supervisor has ordered a lantern and one thousand slides. It may be necessary to erect a broadcasting station with call letters FIRE.

Now maybe you think I am spoofing you. Well you just wait until you see him on the Chautauqua platform, take it from me.--B.B.B.

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 9. Washington, D. C. March 2, 1925.

RECENT DEVELOPMENTS IN GAME MANAGEMENT

By Aldo Leopold, Forest Products Lab.

By all odds the most important thing from the standpoint of the Forester who cooperates with game officials is the recent impetus toward merit as distinguished from patronage appointments in various State game departments.

New Mexico sportsmen, after 8 years of uphill fighting, seem about to pass their bill authorizing the Commission (unpaid, composed of sportsmen), rather than the Governor, to employ the State Game Warden.

Governor Hyde of Missouri has broken the precedent of decades of political game wardens by appointing Mr. Wielandy, a conservation worker and officer of the Izaak Walton League, as State Game Warden.

Oklahoma claims to have its department out of politics. At the National Game Conference there was a surprising proportion of game officials who thought, spoke, ate, and slept ways to accomplish game production, as distinguished from ways to make a noise like it.

In some of the less progressive States the reactionary groups are going to such extremes and the progressive groups getting so impatient that reforms may be safely predicted to be in the offing. The ferment is spreading. Outdoor America is coming to realize that there is no use conversing about game production without competent and enthusiastic official leadership to put it into effect on the grounds.

The next most significant thing to foresters is the growth of the public shooting ground idea. I say 'idea' rather than 'bill,' because the bill now in Congress, important as it is, is only one of many of the inevitable ramifications of the principle of public acquisition of recreation areas, their dedication to some specialized forms of recreation, and their administration as units of a system offering many specialized forms of play to each community. Of course there is nothing new about the principle. Landscape and recreation engineers have urged it for decades, and the Forest Service has actually used it up to a certain point. But now the public has discovered it and wants it pushed much further. Right now drainage and clubs have pushed the "one-gallus" duck hunter off the map, and in the Public Shooting Grounds Bill he is serving notice that he wants back on, and is willing to pay collectively for the privilege. His wishes should, and will, prevail.

But there are other sorts of "one-gallus" men in Outdoor America. There is the man who likes to make wilderness hunting trips, and who means canoes and pack mules, not motor and golf stockings, when he says "wilderness." There is not a doubt in the world that good roads, gasoline, and summer resorts are pushing him off the map. Yet he must be reckoned with in all far-sighted plans of development. The public in its entirely commendable zeal for motorized recreation grounds to accommodate the golf stockings must not entirely overlook the wilderness hunter. He could be accommodated very nicely in regions best suited for that purpose and not really adapted to the motorized form of development, "up-on-edge" regions that weren't laid out for roads anyhow. And I mean regions, not merely a bush to sit behind and practice the diamond hitch.

Forgetting the wilderness man is such an easy and natural mistake to make, because for centuries he has needed no attention - there was always plenty of room for him out on the edge of things. But now our railroads have pushed the edge of things off into the Pacific, and our motor roads are pushing the remnants up over the timber line. All I am arguing for is to demotorize our plans for those remnants before it is too late.

-------#-------

ECHOES FROM YE OLDEN TIMES

(Extracts from an old letter)

Life in the Forest Reserves prior to the creation of the Forest Service as a Bureau in the Department of Agriculture was anything but rosy, as all Old-Timers will recall. The following letter gives many interesting facts about fire fighting as well as a few side lights on the life of a Ranger back in "them happy days:"

"Regarding our methods of fighting fire prior to our going under the Department of Agriculture I must say they were very incomplete.

"When I entered the Service in 1899 no tools of any kind were furnished. Later we were furnished with a few rakes, axes, and saws. I fought a good many fires with nothing but a forked stick with which to rake the pine needles back, and a piece of bough to whip the fire out. If a dead tree caught fire the only thing to do was to back-fire around it. In fact, back-firing was the most effective means at our command in fighting fire on a large scale. It was soon learned by experience that the draught from a back fire would draw the main fire down toward the ground even if the wind was high. The great trouble was to find the right place to back-fire. Often it was found necessary to allow the fire to advance over a considerable area in order to find a suitable place to back-fire.

"In those days the stockmen were as willing as they are to-day to fight fire, but there were not so many small owners then as there are now, and especially in the outlying districts remote from settlements it was not uncommon for large fires to occur on ranges almost, if not entirely, unoccupied by stockmen.

"Rangers in those days had no authority to hire help and there were few laborers, if any, to be had even if the Ranger had possessed the necessary authority to hire them.

"If a Ranger discovered a fire in such remote regions all he could do was to secure the assistance of the few stockmen within reach and fight the fire night and day with limited help.

"During the summer of 1901 I fought a fire on Wild Cat Canyon, in what is now the Sitgreaves National Forest, with the assistance of only seven men. This fire was burning when I took charge of the District on June 21, and before we succeeded in getting it under control it had burned over an area of about twenty-five square miles.

"During the same summer I fought another fire on Barber Shop Canyon in what is now the Coconino National Forest, with the assistance of only two stockmen and two laborers whom I persuaded to assist me under the promise that I would try to get them paid. I turned their time into Supervisor Breen, who promptly paid them. This fire burned over an area of about five square miles before it was extinguished.

"Prior to 1901 I fought several fires on the Grand Canyon (South) and the Grand Canyon (North) now the Coconino and Kaibab National Forests without any assistance, or with the assistance of only one man. These fires had not gained great headway when discovered, if they had I could have accomplished very little.

"In those days the Ranger Districts were very large. During the time I was Ranger on the Kaibab National Forest there was only one other Ranger on the entire Forest. In fact, we were the first Rangers ever sent to that Forest by the Government.

"At one time during the summer of 1901, my District extended from Phoenix Park Wash on the east to Baker's Butte on the west, while its northern and southern boundaries were marked by the northern and southern boundaries of the Black Mesa National Forest.

"In those days I lived in the saddle driving my pack horses before me every day and camping where night overtook me. At no time did I have a headquarter camp or a cabin to live in, but merely came to Heber for mail and provisions about every ten days. I generally left the same day, but if I stayed in Heber overnight I camped on the ground because there was no place for a man to stay in Heber.

"While on the Kaibab National Forest I lived in the same manner. I had no fire tools and could not have packed them over such an extensive area if I had had them. Such was my experience in the regions remote from settlements and railroads. As I have said, my fire fighting was all done with a forked stick and a pine bough. Crude as was the method I believe some good was accomplished, but when compared with the present system of fire fighting with all the necessary tools stored in fire tool boxes at convenient places on the Forest, with lookout stations and telephone lines, with authority to employ all the necessary help, with Ranger Stations and pastures, it is easy to see how much more a Ranger can accomplish.

"It is very gratifying to note the rapid advancement the Forest Service has made in the few short years that have elapsed since it passed to the Department of Agriculture. If we accomplished anything at all during the pioneer days of the Service how much more good is being done in the matter of fire protection every year under the present regime."

-------#-------

"THAT AIR SERVICE"

By M. A. Mattoon, Washington

The Cherokee National Forest has had an experience with a portable air compressor which perhaps warrants a little Service-wide publicity. After the Service-owned compressor in use on this Forest was transferred to other work, some emergency rock work on one of our road projects made it advisable to rent a compressor for a short period. This machine was supposed to be delivered to the job in good operating condition, but it was not. After about a week's work the receiver or air storage tank without the slightest warning blew up one morning while the machine was in operation. Miracuously no one was injured but the drilling crew were somewhat shaken up and badly scared. At the time the explosion took place the machine was running only one jack hammer instead of two and carrying only [illegible] pounds of air, a pressure 40 pounds lower than normal load. An investigation showed the violent explosion due not to excessive air pressure, or a defect in the receiver, but rather to a sudden internal combustion of superheated cylinder oil which had worked past the worn cylinder rings and badly carbonized exhaust valves of the compressor. The excessive heat which caused the vaporization and explosion of the escaped oil in the receiver is directly traceable to the carbonized condition of the exhaust valves which in this condition did not close tightly. The compressing of air causes heat. This heated air passed into the receiver but a certain amount of it returned through the leaky exhaust valves into the cylinder of the compressor where, already hot, it was re-compressed and re-heated. It can readily be seen that a continuation of this process soon raised the temperature of the air in the receiver to a point where the vaporized oil exploded under pressure similar to the explosion in the cylinder of a Diesel crude oil engine, or ignited from a bit of glowing carbon. No pop valve or series of fusible plugs could take care of the terrific expansion and the blast tore the receiver to shreds and damaged the rest of the machine.

The lesson learned is that too frequent inspection of the condition of valves and cylinders of the compressor is impossible; that the blowing off of excess oil in the receiver is inoperative and above all that one shouldn't rent a machine unless it is known absolutely that it is in good shape. Pneumatic machinery in poor repair is dangerous.

-------#-------

WASHINGTON NOTES

"Forest Resources of the World" a Best Seller: The first edition of Zon and Sparhawk's magnum opus has been exhausted and a reprint is being made by the McGraw-Hill Book Company.

- - - - - - -

Everard Returns to the Service: Mr. L. C. Everard, who formerly held the position of Chief of Publications for the Service, has accepted the position of Editor in Public Relations. Mr. Everard resigned in 1919 to accept the position of Chief Editor of the Department of Agriculture, and for the past three years has been associated with Findley Burns in the printing and book selling business in Baltimore as Vice President of the Medical Standard Book Company.

- - - - - - -

Position Open for Professor of Forestry, New Zealand: There is a vacancy for professorship of forestry at Auckland University College, New Zealand. The initial salary is 700 pounds with traveling allowances to the amount of 75 pounds for a single man and 100 pounds for a married man. Further information may be had from A. Locke O'Shea, B. Com., Registrar, Auckland, New Zealand.

-------+-------

DISTRICT 1 - NORTHERN DISTRICT

They Die Hard: In 1906, when the Coeur d'Alene and St. Joe National Forests were created, in a number of localities of exceptionally high timber value where the land had not yet been surveyed by the General Land Office, the Forest officers found scattered, generally dilapidated, and evidently abandoned log cabins. As survey of township after township of this character of lands was approved, a very great number of honest homesteaders rushed to file on these worth-while claims as squatters. The Forest Service immediately brought a great storm down upon its head by protesting entry; this was one of the strongest local forces and longest-continuing and hardest-to-forget factors making for antagonism toward the creation of the National Forests.

The cases dragged on for many years, both sides appealed every unfavorable decision as it was made by the various steps of authority in the Land Office up to the final decision of the Secretary of Interior. A great many cases even came up for oral rehearing for the exercise of the Supervisory authority before the Secretary of the Interior. In 1915, Secretary of Agriculture Houston himself visited a typical group of such pseudo homesteads on the steep mountain sides covered with heavy stands of valuable white pine on the Coeur d'Alene following a trip made several months before by Chief Forester Graves. By about 1916 practically all the cases were won by the Forest Service and finally closed out so far as the Interior Department records are concerned. But since that time year after year, though in diminishing numbers, claimants have endeavored to override the Secretary of the Interior's final decision by having Congress directly pass a resolution or an act instructing the Secretary of the Interior willy-nilly to issue patent. In the present Congress, the fight is still continued by the claimants in two cases on the St. Joe National Forest. It is wholly improbable that these claimants will be successful.

When one realizes that many of these claims contain timber which may run in value as high as $25,000 at present-day prices and even more, he can see why the fight has been so long and bitter and also can appreciate the saving to the people of the United States against loss by fraudulent entry which has resulted from the work - hard, extremely distasteful, and sometimes even dangerous to life - on the part of earnest Forest officers in the past years. A history of many of the cases would make astonishing reading. We take off our hats to these men.--M.H.W.

- - - - - - -

A Prize Fish Story: The magazine "Field and Stream" offers prizes for the biggest fish caught anywhere in the United States. Different prizes are offered for different species of fish, but the first prize for trout is $100 - separate prizes being offered for the various species of trout. The plan of awarding prizes is sponsored by the Bureau of Fisheries as well as many of the accredited rod and tackle houses, in order that authentic data will become available relative to the weight and distribution of the various species. In awarding the national prizes for 1924, the first prize for the largest eastern brook trout, six and three-fourths pounds, went to J. R. Schmidt of Red Lodge, Montana, and the second prize was awarded to a New Yorker who was a guest of Camp Senia, and incidentally the first prize in the women's awards was made to the wife of the New Yorker who was a guest of Camp Senia. Three national prizes, two firsts and a second - not so bad for the Beartooth.--R.T.F.

-------------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Meeting of Advisory Board Lake States Exp. Sta: Under the leadership of Director Zon, a most interesting and successful meeting of the Advisory Board of the Lake States Forest Experiment Station was held in Chicago in January.

The personnel of this board, made up as it is of old school lumbermen, State Foresters and teachers of forestry by its very cosmopolitan nature added zest to the meeting. Director Zon, in a few remarks, outlined the work done by the station during the past year and plans for the future.

The outstanding features of the meeting were:

1. The vast progress that the Forestry idea has made in the Lake States.

2. This progress has been contributed to in no small degree by the Lake States Forest Experiment Station by the summarization of information understandable to the layman.

3. Given basic facts to deal with, a hard-boiled lumberman will develop a surprising amount of vision. The Experiment Station, it was apparent, is doing a wonderful work in furnishing simple facts to awaken this vision.

4. In the establishment of the Lake States Forest Experiment Stations, D-2 gained not only a source of much needed technical information, but a remarkable public relations agency.--E.W.T.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Pertinent Propositions: Supposing, suggests Ranger Taylor in the Crook Bulletin, you were a layman around town and were told by the "powers that be" that owing to our rapidly diminishing forests the time had arrived to prohibit the cutting of Christmas trees on the National Forests. That evening you pick up the metropolitan paper with its 999 pages and note that deer, sheep, goats, and cattle are destroying thousands of young trees on our Forests. Then you remember that the Ranger mentioned a movie that the Forest Service is going to put on that night; so you bundle up the wife and kids and drive to the schoolhouse to see the picture. The Rangers, on the screen, show you how to wield an ax and make a temporary lean-to shelter of saplings and boughs for the night. (Reel one of When Elk Come Down.) Would you scratch your head and make a rough estimate of how many homes would have been gladdened could each have had one of the nice, little trees that went into the lean-to or would you think what a shame it was to rob the poor deer or sheep or goats of the pleasure of destroying the trees?

- - - - - - -

Coyote Campaign on Jornado Range Reserve: On the Mesa portion of the Jornado Range Reserve, which includes an area of approximately 150,000 acres, two men in a Ford truck using fresh pork bait, treated with the U. S. Biological Survey predatory animal poison, obtained 69 coyotes in 11 days. The first three days netted 34 coyotes. The largest number poisoned in any one day was 14. It is estimated that this campaign exterminated about 75 per cent of the coyotes on the reservation.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Deer Killing on the 50-Mile: George Davis of Escalante, Utah, who has been spending considerable time with the stock on the Escalante winter range, reports having observed 8 deer heads at the mud hole on the Fifty-Mile Mt. In addition to the 8 heads, he saw the carcasses of six deer hanging in the trees on the range in that vicinity. Only the hides had been removed from four of these animals. One hind quarter and the hide had been taken from another, while for the sixth two quarters and the hide had been removed by the parties doing the killing. The killing was done some time late last fall and the supposition is that the Navajos, who were reported as unlawfully killing deer in that vicinity about a year ago, are responsible for the slaughter recently observed by Davis. It is the opinion of the Escalante stockmen that the Navajos when coming out this way to trade blankets for horses and mules, come in sufficient numbers for a few of them to remain down near the river during the period the others are trading, the time being spent in killing deer. They join the traders on their return trip taking with them the hides and only a portion of the meat, and report to the Indian Agency that they traded for the hides and meat this side of the river. The matter is being reported to the State Fish and Game Commissioner.--Powell.

- - - - - - -

Timber Sale: The W. H. Eccles Lumber Company of Baker, Oregon, is the successful bidder for a block of timber advertised for sale on the Payette Forest. The sale covers 52,000 M feet of western yellow pine sawtimber, 11,200 M feet Douglas fir, 14,400 M feet of white fir, 4,000 M feet other species, a total of nearly 82 million feet. The W. H. Eccles Lumber Company bid $3.07 per thousand for the western yellow pine and 75 cents per thousand for the other species. In addition it offers seven cents per tie for an unestimated number of railroad ties. The minimum stumpage was $2.50 for the western yellow pine, 75 cents for other species and seven cents for ties. This sale, plus an earlier sale on an adjoining area, will provide for a sustained annual yield of about 12 million feet per year.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Proposed California Forestry Legislation: Fifteen forestry measures, the majority of which are intended to strengthen the State fire-fighting organization, await action by the State legislature when it reconvenes, according to a digest of forestry legislation made public by State Forester M. B. Pratt.

The major forestry bills are:

An act making it a felony to start a fire on forest or brush land which results in damage of more than $25.

Five bills providing for the organization of forest fire protection districts in unincorporated sections.

Camp fire permit bill, providing that persons building camp fires on land other than their own shall pay an annual license of $1, the collections to be used in fire-fighting work. This measure is sponsored by the Board of Forestry.

An act prohibiting campers to enter uninclosed land posted with "No Trespassing" signs.

Measure creating county park districts.

Bill providing for construction of fire lines in the Angeles National Forest.

An act providing for fire protection in Big and Little Dalton canyons.

Act regulating distribution of returned funds to the counties from National Forest receipts.

Measure regulating highway tree planting and providing that it shall be carried on under supervision of the State Forester.

Act providing that the State shall cooperate with the United States Forest Service in establishing a forestry experiment station at Berkeley. This measure carries an appropriation of $10,000.

Bill providing for the purchase by the State of cut-over and brush lands for replanting and carrying an appropriation of $10,000. This bill is sponsored by the Board of Forestry.

Measure making it a misdemeanor to throw burning matches or tobacco from a moving vehicle.

Act to provide for prevention of forest fires in San Antonio and San Gabriel canyons.

Bill allowing the State Forester to create fire hazard areas and regulate their use.

DISTRICT 6 - NORTH PACIFIC DISTRICT

Cinched: On December 31, District Ranger Elliott, of the Santiam Forest, accompanied by two State Game Wardens, made a raid upon and arrested a party of game violators on the Santiam. Four men and one woman were arrested and brought in and arraigned before the judge, who fined three of the men and the woman $100 each and costs. One man was let go, mainly on account of the condition of his family. Mr. Elliott and the wardens left Albany at 5 p. m., December 31, by auto and went as far as possible in the machine, walking the rest of the way, about 15 miles over a very bad road in the dark, arriving at the cabin where the violators were located about 1 a. m. The violators were brought out at once, the party arriving in Albany about 9 p. m., January 1. During this time Mr. Elliott and the wardens were without sleep and with practically nothing to eat, having hiked over 30 miles, half of this distance in the dark.

This is the third case in which Forest officers have participated in securing arrest and conviction of game violators during the past year.

- - - - - - -

Summary of Work of Fire Fighting Pumps, Season 1924. D-6.

No. fires on which used	89
Average size of fire	300 A.
" distance pump transported	22 miles
" elapsed time from report of fire to use of pump	9.25 hours
Approximate No. pumping hours	2103
Average No. pumping hours	11.2
Maximum distance water pumped without relay	7000 feet
Average lift estimated " " "	84 "
Breakdowns, failure to start, to develop pressure, etc., approximately	6

-------#-------

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 10. Washington, D. C. March 9, 1925.

THAT ELUSIVE LIGHTNING FIRE

By F. W. Cleator, D-6

Question. The lookout discovers a lightning fire and reports. What shall be done about it?

Answer. Send some one immediately to put it out.

Looks simple enough. Some unlucky chap with a pack on his back, and a fire tool or two, starts out pronto. Sometimes he finds the fire quickly. Often enough he scurries through the woods, dashes about, encircles himself - hurrying expectantly, hopefully - just a little farther on. While his brain is fresh and clear he probably overworks his muscles. After he becomes muscle-bound, he tries to use his brain. He elevates his nose for fresh smoke, cocks his ear for the crackle of a possible flame, and, if not too far removed from the missing link, he crawls up a few trees to look about.

The day goes. Just before dark he staggers down to a creek, unloads his pack, drinks deeply, eats some uninteresting food, and curls up in a likely place for a night of cat naps, with knapsack for a pillow and hat for a blanket.

At daylight or before, he arises, yawns; puts on his hat, yawns; swallows a few calories of cheese an' crackers - yawns. Wishes he hadn't eaten all his sweet chocolate yesterday - yawns. As soon as it gets light enough he makes another sortie in such places as he thinks he didn't go yesterday. He gets angry, goes off a mile or so to a higher point, looks back and sees the smoke down there about where he spent the night. There it is, or Great Scott! Had he dropped a match or failed to use his spark arrester? Comes more muscular activity. We will now allow him to find the lightning fire and ease his conscience, for he has been very persistent. Many of us have wrestled with these conditions, and I want to offer a remedy which, while it is not a cure-all, may help some other man in trouble.

On August 15, 1924, I was in charge of a Class C fire with a 30-man crew. Some 20 other lightning fires had been reported all within a few miles. Other crews were at work. Some of these fires were hard to find. One in particular baffled all smokechasers for more than a week. This smoke puzzle was visible from the road near my camp. Every day I saw it and every day expected to learn that it was found and under control.

On August 21, after consultation and agreement with higher authorities, I left my big fire, now controlled, with the clean-up crew, took one helper, and started for the smoke by compass. I knew it was up to me to find it; so used what seems to me a fairly sure system.

I estimated the fire at about 2¾ miles. At 2¼ miles on compass line I had my assistant start blazing with light notches. I compassed, broke brush, and marked every 2¼ mile with pencil on a larger blaze "Line 1, 2¼," "Line 1, [illegible]", etc. With marked line of one mile, I stepped 500 feet eastward, smoke drift being in that direction. Thence I ran back on parallel line marking "Line 2" as the other.

Had I not found the fire on Line 2, I should have continued the gridiron until fire was found. Now, my story should be finished but I want to tack on a little more to show extra precautions taken in this special case.

It was at 11.00 a. m. I met up with the fire ½ acre in size and about ready to migrate. Three other men were out looking for the same fire by ordinary methods. This made five of us in all. By prearranged signal, I shot double shots with my revolver every 15 minutes for ¾ hour. The three others, who were cruising about within a quarter of a mile or so, located me during this interval. Two of them had beds, tools, and rations. I left these two on the fire, which was not yet a menace; then three of us spent the remainder of the afternoon in blazing out a fairly good horse trail to the road.

Fresh men were sent in along with packer and supplies to insure the killing of this fire during the next day or two.

"What's the moral?" you ask. I can only say that every forest fire is a law unto itself and an outlaw to humanity and our little schemes for prevention and suppression are not yet perfected.

--------#--------

MORE ABOUT WILD HORSES

By Glen A. Smith, D-1

John D. Jones, of D-3, in the SERVICE BULLETIN of December 15, seems to think aggressive action all along the line will eliminate the "Cayuse Menace" and several others have written optimistically along the same line. Now, it all depends how far along the line this matter is carried and who and what makes up the line. Generally speaking, the line has commenced with the Ranger and ended there and the results are the Ranger has two or three of his prize saddle horses broken down rounding up, or attempting to do so, these wild creatures and he, himself, thoroughly discouraged with a lot of cayuses on his district to mock his efforts. The line must be extended and all parts of it made equally as strong. Right now the weakest place in the line is the lack of adequate laws to deal with the situation and right here is where the line breaks when we start to monkeying with the "Horse Trespass," "Wild Horse," "Broom-tails," or the "Cayuse" situation, or whatever you may please to call them.

D-1 has tried all the so-called remedies that have been prescribed by the wild horse doctors and a few that have not found their way into the list of prescriptions, and our patient is not improving; in fact, he has grown gradually weaker, for we have found a great many weak places in our "line" of defense and few strong places (except the lead line). The weakest place and the one most fundamental to the whole problem is (as stated above) the lack of adequate laws either State or Federal. All the laws dealing with livestock in the eleven western States have been carefully examined, and I have been unable to detect one built to deal with this problem. As a matter of fact none of them were ever designed with our problem in mind. What is needed is to discard these old so-called lines, which have proven ineffective and rotten for lo, these many years, and start anew with full appreciation of our problem and the pitfall we have tumbled into and demand a Federal statute designed to strengthen the line in dealing with this particular problem. A Federal statute to protect Federal property. "Why not?" As I view the situation, we need and must have, if we are ever to make progress, a Federal statute which will provide for the following:

1 - To establish the penalty for trespassing stock.

2 - To short-cut the long period of holding, advertising, etc., and at the same time give ample notice and, if desired, a "day in court."

3 - To establish a lien not subject to mortgages.

4 - To provide that stock in trespass need not necessarily be impounded to enforce a lien.

5 - To provide an effective method of collecting delinquent grazing fees.

6 - To provide that all expenses incidental to the rounding up, holding, etc., of trespassing stock be paid into a cooperative work fund, thus placing the expense upon the trespasser and not upon the appropriation.

7 - To provide a penalty for interference with trespassing stock or Forest officers in handling trespassing stock.

When once such a statute is enacted a new line will be available, and I am sure the field men will furnish other lines which will get the results.

Those who think they are making progress with these range nuisances are, I am sure, kidding themselves by measuring the whole problem by the success gained in one small region. "Guilty, yes guilty," but never again. Several times during the past year here in D-1 we have made a special effort to clean up on a certain Forest and when we were feeling good over our supposed victory the neighboring Forest officers begin to holler "Broom-tails," "Cayuses," "hundreds of them, where are they coming from?" The procession is one continual round of hard riding, with broken saddle horses, and an ever-increasing number of range pests.

Stockmen cooperate in D-1 but why pass the buck to them? Range appraisal places the Forest range on a commercial basis, the public raised our pay and if they know we need Federal legislation we will get it and anyhow it is up to the Service to make good.

-------#-------

DOES IT PAY TO ADVERTISE?

By J. A. Hagerman, Rio Grande

It is generally considered that it does pay to advertise; so naturally it has become the custom to string out a lot of signs along the highways until they are so numerous that one must reduce his speed to about four miles per hour in order to read all of them.

Anyway, the posting of advertising signs on the National Forests being prohibited, there is still a difficult problem to handle, when such signs are posted on private buildings or fences and we have no authority to order them removed.

One advertiser, who was requested to remove ten or twelve signs which he had recently put up on the Forest at the cost of about one dollar apiece, came back at me like this:

"Say; what's wrong here? I just pulled down those signs you have been fussing about and I see there are still some other signs up that have been there over a year."

I inquired where these signs were, and he informed me they were on Bill Jones' barn, woodshed, and pasture fence.

I was about to inform him that unfortunately we had no authority to order signs removed from private property along the highways, but had a sudden hunch that it would just be "spilling the beans" to admit that and decided for the present to pass it off in the easiest way possible and promise him that they would all come down in time.

It did not take me long after that to secure the promise of all landowners along the highways across my district that they would give permission to no one to post such signs on their property, and that I would be at liberty to remove any that I found posted there in the future.

I believe that if the property owners are approached in the right way, 99 per cent of them will do as these did and this will simplify very much the task of eliminating all advertising signs within the Forest.

If the advertiser gets wise to the fact that we cannot prohibit the posting of such signs on privately-owned property he will get busy and see his man "first" and thus make it more difficult for us to make such arrangements.

There are no advertising signs on South Fork District now.

-------#-------

WASHINGTON NOTES

"When Winter Comes on the Range" by Will Barnes is the lead article in the February issue of THE FIELD.

- - - - - - -

Coming Up In the World: A letter was recently received addressed to the U. S. Forest Service, WHITE HOUSE, Washington, D. C.

- - - - - - -

"Forest Regions of the U. S." is Popular: The first edition of 10,000 of the map showing the "Forest Regions of the United States" has been exhausted. Unfilled orders to the amount of over 5,000 are on hand. No promises can be made as to the date of a reprint, but the matter is under advisement with the Division of Publications.

Word has been received from the Superintendent of Public Instruction of Illinois that this map will be reprinted in the Illinois Arbor and Bird Day Circular. The 40,000 copies of this publication will find their way into every school room in the State.

- - - - - - -

FOREST PRODUCTS LABORATORY

Date Set for Spring Courses: Instructional Courses - The following dates were set for the spring classes: Gluing of Wood, April 20 to 25; Kiln Drying, April 27 to May 2; Boxing and Crating, May 4 to 9. The course in Wood Properties and Uses will not be given this spring.

- - - - - - -

Southern Gum for Book Paper: Two tons of pulp prepared from southern gum by the semi-mechanical process at present being developed at the Laboratory were shipped to the paper mills of the Dill & Collins Paper Company, Philadelphia, Pennsylvania, to be used in the manufacture of book paper. No difficulties were observed in running this material over the paper machine. The paper could be obtained only with an eggshell finish, suitable for cheap novel paper. It was not found possible to obtain an English finish, even in the presence of considerable moisture. Under the latter conditions, however, no blackening of the paper was observed in the calenders and the color of the paper was satisfactory. The most objectionable feature was the presence of shives in the paper. Their elimination will form the subject of further study, as the cooperator believes that there would be considerable demand for a cheap book paper prepared in this manner.

- - - - - - -

Progress Report on Small Dimension Stock Drying: The first draft of the progress report on the seasoning of red gum, aspen, and yellow birch dimension squares indicates that at present it is not possible to kiln dry small squares, such as 3/4" squares for instance, of the species named without considerable loss due to warping. Large squares of all three species can be kiln dried quite successfully. It is not possible to state at present the exact relative value of air dried and kiln dried squares.

* * *

DISTRICT 1 - NORTHERN DISTRICT

The Result of Neglect: "A Preliminary Study of Forest Conditions in Northern Honan and Shantung," by W. C. Lowdermilk of the University of Nanking, China. A very interesting and instructive study by Mr. Lowdermilk, containing the results of some of his work during the past two years, with historical, political, geographical and sociological references to facts relating to the deforestation and plans for reforestation of these regions. From it one learns of the causes of flood and famine, the efforts of the Chinese to combat these visitations, and the help they have received, domestic, and foreign. The acute food supply situation, and its inadequate and ephemeral solution, the intensively farmed lands, where plots the size of a dinner plate are not uncommon, and the tiller of the soil resides in a cave beneath his farm plot to save land for crops; the use of grass and weeds for fuel (for cooking, not for heat) all bring out clearly the manner of life of the Chinese for centuries. Protection against theft of the limited timber supply is a problem as vital as any other repressive action in crime suppression.

The Germans showed their national characteristics of scientific preparation for future peace or war during their occupation of this part of the territory, and the results of their experiments in reforestation exist as an object lesson.

Altogether, the report covers relatively unfamiliar ground, and very clearly emphasizes the results of the carelessness and negligence of past ages, for China traded her birthright, before the Christian Era, for less than the proverbial mess of pottage.

* * *

Forestry Legislation in Montana and Idaho: At this writing it is impossible to say what will be the fate of the measures now pending in the two legislatures. In both States bills have been prepared by representative committees through a series of sessions and conferences that continued over two to three months' time. The lumbermen were well represented on both committees, and in the main, endorse the bills. Although individuals in the industry find fault with certain clauses, some with one clause and some another, it is not believed that any concerted opposition will develop to defeat the measures. The greatest danger lies in the possibility of legislators not being interested or well enough informed to stand by the measure in the face of opportunities for trades. That such is not the case in Idaho is indicated by the fact that the measure has already passed the house by unanimous vote, and that it has had the official and public sanction of the Governor. Let us hope, but whether they become laws or not, the threshing out of points in committees of this character cannot fail to bring all views nearer together and nearer to what the forest needs of these States really are.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

High Planting Record for D-2: The largest area ever planted in District 2 is the record for 1924. The total of 7219.24 acres is 2976.6 acres more than was planted in the previous high year of 1923. It is only 654 acres less than the area planted on all of the National Forests in 1923. This record was accomplished by each Forest exceeding the area allotted to it, by carefully watching allotments, transferring funds where most needed to plant excess stock, and by close supervision to get the maximum amount of high class work.

- - - - - - -

Insects on the Washakie: The situation found in this Forest was a very interesting one. There is a large timber sale, cutting railroad ties, on the head of the Wind River Drainage, which has been in progress for quite a few years and will be in operation for several years more. The system of brush disposal followed is to lop and scatter, except along sale boundaries and right of ways, roads, etc., where the brush is piled and burned.

At the present time two small portable sawmills are in operation in one of the sale units, which utilize the trees too big for hewn ties. These mills have just been used in the one unit; so in the others the large trees as well as those too small for ties were left. These large trees are being attacked at the base by the lodgepole pine beetle (*Dendroctonus murrayanae*), and after three or four years the upper portion of the bole is attacked by Ips which results in the death of the tree. Many of the trees too small for ties are being attacked by Ips which have apparently been raised to the status of a primary killer by breeding in the larger tops included in the slash. At the time of the examination it was believed that this loss would soon die down following the cessation of the logging operations, especially in the smaller trees. This belief was substantiated by an examination of a unit where there had been no cutting for several years. Though no control measures were recommended, it was advised that if possible advantage should be taken of this situation to study this problem in the hopes of instituting certain cutting regulations which might reduce this timber loss during the cutting operation.--H. E. Evenden, Bureau of Entomology.

-------/-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Will Broadcast Forestry Lectures: In response to an invitation from the New Mexico State College of Agriculture, a series of Forest Service talks have been prepared for broadcasting from the State College Station. The talks cover a wide range of Forest Service work and activities. One of these talks will be broadcast each Friday night during the next several weeks.

- - - - - - -

Indians Will Give Protractor Readings: It may not be so far in point of years but it is a long way in progress from the time when bands of braves sallied forth to plunder wagon trains to the occasion of a solemn meeting for the prevention of forest fires. Ranger Earl of the Santa Fe Forest has just held a conference with the Cochiti Indians for the discussion of a cooperative agreement between the Indians and the Forest Service for the detection and suppression of forest fires. The agreement which was signed by the Indian Governor, Lieutenant Governor, and Captain of War, provided that the Indians shall keep a sharp lookout for fires in the forest. When one is discovered a protractor reading on the smoke will be made and a runner dispatched with the information to the Ranger's headquarters at Bland. Ranger Earl explained to the Indians how forest fires are located by triangulation through the extension of direction lines from two or more lookout points to the point of intersection and why it is necessary to have the protractor readings at the earliest possible moment. The Indians responded enthusiastically and the Lieutenant Governor was charged with responsibility for despatching the messenger.

- - - - - - -

DISTRICT 4 - INTERMOUNTAIN DISTRICT

What the Lightning Hits: Studies in Europe reported by the Monthly Weather Review for October, 1934, have determined the following facts regarding lightning striking trees:

(a) Among trees of the same kind the one which stands well above its neighbors is in most danger, even in a dense Forest. This dominant position may be due to the greater height of the tree or be the result of the configuration of the ground.

(b) Trees growing in the open, either singly or in small groups, are in more danger than those in the dense forest or other thick stand of timber.

(c) Trees growing along avenues or in the border of a wood are also struck by lightning more often than those in thick woods.

(d) A tree growing in moist soil - that is, along the banks of a stream or a lake, or close to some other source of moisture - is a better conductor for lightning than one growing in drier soil.

(e) Trees growing in loam and sandy soils are struck much more frequently than those in clay, marl, and calcareous soils. Oaks grow mostly in loam and sandy soils.

(f) Sound trees in general are less likely to be seriously damaged than those with rotten wood. If the sound tree is also a relatively good conductor, lightning will go to earth easily, but rotten wood is a poor conductor of electricity so that the passage of the lightning current through this nearly nonconducting portion often results in a shattering of the tree and when dry the tree may be set on fire.

(g) Starchy trees, of which the oak is a good example, are better conductors of electricity than oily trees like the beech. The conifers are intermediate.

-------#-------

DISTRICT 5 -- CALIFORNIA DISTRICT

Grazing Reconnaissance Completed on California Forest: The Grazing Reconnaissance field work was completed last summer on the California Forests after two seasons' work. Approximately 332,000 acres were covered in 1923 with two men while the remaining 720,000, nearly one-third of which was waste range in brush fields, were covered during the past season with three men. The work was done with extensive methods, four or more sections being covered per man per day. The cost of the field work was just over one-half cent per acre which includes the subsistence cost of about 90 cents per man day.

A grazing management plan is now being prepared using the Grazing Reconnaissance information as a basis. The salient features of the plan are: (1) A change should be made in the basis of stocking most of the sheep ranges from a browse to an herbaceous basis which will necessitate a cut of nearly 50 per cent in numbers. (2) Set back the opening dates of the high summer ranges two to four weeks. (3) Cattle ranges are in much better condition than sheep ranges; nevertheless cuts of 20 per cent and more will be needed on many of the ranges, while free permits on account of private land exceed the carrying capacity still more. (4) Goat grazing prior to the creation of the forest is the cause of the most serious damage to the ranges, but the combination of overstocking, improper seasons, and poor management on the sheep ranges has also resulted in serious damage over small areas.--F.P.C.

- - - - - - -

To Bathe or Not to Bathe - That is the Question:

Lookoutman - Five-gallon oil can.
Fireman - Candy pail.
Assistant Ranger - Wash tub.
District Ranger - Porcelain bath tub.
Forest Supervisor - Roman tub with shower.--Cleveland.

* * *

DISTRICT 6 - NORTH PACIFIC DISTRICT

Guilty Conscience: A certain Ranger on the Cascade wrote to all his sheep permittees asking them to cooperate in better range management. The letter was prefaced: "One of the permittees grazing sheep in this district has allowed his sheep to use an area closed to grazing ***."

The letter then appealed to all good men and true to respect allotment lines, explaining that pressure was constantly being brought to bear by the recreational interests to close the Forest to all grazing use and that it was up to the sheepmen to help the Forest Service prove that sheep could be handled on the National Forest without interfering with other uses.

Much to the Ranger's surprise, a letter from one permittee in response stated, "I inquired among my men concerning the trespass. They admit being there but claim that this area was not posted and that it was not until afterward that they heard it was set aside by the Forest. I wish to state I am sorry such has taken place but am willing to do whatever is right with regard to the damage."

This was the first intimation the Ranger had that trespass by this particular permittee had occurred! After this confession, the Ranger is in a quandary, and search of all Manuals, Handbooks, and even the new Form 438 has so far failed to give light as to the proper action to take in this matter!

* * *

New Geographic Names Committee Appointed: Reorganization of the North Pacific District Geographic Names Committee was effected in January. The reorganized committee consists of: A. H. Hodgson, Maps and Surveys, Chairman; Fred W. Cleator, Lands; and Geo. E. Griffith, Public Relations.

The first meeting of the new D-6 Committee, held recently, was attended by Assistant Forester Will C. Barnes, member of the U. S. Geographic Board; also by Mr. L. A. McArthur, Secretary, Oregon Geographic Board; Assistant District Forester H. L. Merritt of Juneau, Alaska; and District Engineer P. H. Dater.

* * *

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. ~~12~~.　　Washington, D. C.　　March 16, 1925.

AN IMPOUNDING REGULATION AT LAST

By Will C. Barnes, Washington

In spite of the fact that every law shark in the Department had decided that an impounding regulation simply couldn't be written into the Manual, Mr. Rachford refused to believe that such decision was sound.

Eventually he convinced the Solicitor that an impounding regulation could be so worded and drawn up as to meet the situation and our needs and yet not conflict with State laws. Here it is, approved by the Solicitor, signed by the Secretary, and in full force and effect as of March 2, 1925. The Instructions will be sent to the field in a few days.

Briefly, they recognize the authority of the Secretary to authorize field officers to take up and hold for trespass all unpermitted stock found on National Forests. Where owners are known they shall be notified by mail and directed to remove the animals at once. Where the ownership is unknown the animals shall be advertised for thirty days in a local paper and by posters stating that such stock will be impounded and sold unless removed within the time specified. The notices will cover full description of animals, brands, earmarks, etc., and will state that the animals will be sold at public auction on a certain day unless removed prior to sale and all charges paid. Where public sale is not effected the animals may be sold by Forest officers at private sale. The last paragraph of the regulation itself, especially the last five words, covers the Broomtail problem in a most effective manner. "Rah for Rachford."

"Regulation T-11. Impounding of Livestock.

"Domestic livestock found trespassing on National Forest land if not removed upon reasonable notice may be impounded by the Forest Service. If the owner of the stock is known, prompt written notice of the impounding will be given him, and unless the stock be removed by the owner within five days from the receipt of such notice the stock shall be sold or otherwise disposed of as hereinafter prescribed. If the owner be not known, notice shall be given by publication for not less than fifteen days in a newspaper of general circulation in the county in which trespass occurs and concurrently by posting at the county courthouse. In either case the notice shall state when and where the stock was impounded, describe the stock by brands or other means of identification, and specify the time and place it will be sold in default of redemption by the owner. If the stock be not redeemed on or before the date fixed for its sale, it shall be sold at public sale to the highest bidder, or otherwise disposed of. The owner may redeem the stock by submitting proof of ownership and paying all expenses incurred by the United States in advertising, gathering, pasturing, and impounding it. Upon the sale of any stock in accordance with this regulation the Forest officer shall issue a certificate of sale. Any stock impounded under this regulation which is offered at public sale and no bid received therefor may, in the discretion of the Forest officer, be sold at private sale or be condemned and destroyed."

--------#--------

PROGRESSIVE PNEUMONIA IN MOUNTAIN SHEEP

By W. M. Rush, Lewis & Clark

Mountain sheep have been protected in Montana since 1914 and in certain localities in the State have made some increases since that time. It seems that this species of game animal, although having wonderful physical power, has but little disease resistance and is an easy prey to any contagious malady.

About thirty years ago the sheep became infected with scab and a large percentage of them died from this disease. Even now scab is found to exist in mountain sheep to some extent, and up to a few years ago there was some loss from this source.

Now it seems that progressive pneumonia is to threaten the existence of this species in parts of Montana. In the Lewis & Clark National Forest probably more sheep have existed than on any other area of equal size in Montana. Nearly all of the sheep winter either in Sun River Canyon or in Willow Creek Canyon, summering back on the high ridges. As soon as the snows start in the fall they drift down to their winter range and, owing to the protection they are given, have become quite tame.

Last fall it was noted that they did not come on to their winter feeding grounds in their usual numbers. Later in the winter some which were apparently sick were seen and a little later some dead ones were found. The sick ones were observed to be coughing and heaving, and individuals in a more advanced stage were weak in their hind quarters, standing with their hind legs braced backwards and wide apart. Dead ones showed a mucous bloody discharge from the nose, and an examination of the body showed that the disease had simply wasted away practically the entire lungs. The horrible suffering that these animals undergo with this disease can easily be imagined.

The Livestock Sanitary Board examined some specimens which had been killed for their purpose. A coming two-year old ram which was in the advanced stages of the disease showed that part of the right lung had adhered to the diaphram and wall of the thorax. The left lung was completely disintegrated with the exception of a very small part on which was an abscess.

A four or five-year-old ewe which could hardly walk was killed and examined. The lobes of its lungs were partly consolidated and had adhered to the ribs. Numbers of abscesses were on the more healthy part of the lungs and considerable pus had formed around the lungs. This animal was in poor flesh and undoubtedly would have died from the disease in a few days.

It is unfortunate that nothing can be done to relieve the situation, it being impracticable to capture and treat the remaining animals. It is the opinion of the State Veterinarian that the disease will have to run its course and gradually subside, but whether there will be any of our mountain sheep remaining after the disease runs its course is at the present time very doubtful.

It is apparent that the disease has gone so far as to wipe out all the old rams and ewes and to infect all the remaining young ones, there being but a pitiful remnant of the herd left on their winter range. Owing to a few small bunches scattered around in more remote parts of the Forest, it is hoped that some of them will escape the disease, thus leaving the nucleus for a future herd.

It may be practicable in other localities not yet infected to adopt some control measures if this disease makes its appearance.

LIGHTNING

By T. W. Norcross, Washington

Recently at the request of Operation, I investigated the best method of protecting lookout towers and cabins against lightning. I found that the Bureau of Standards had made a very thorough study of this subject and that it is one of the projects of the American Engineering Standards Committee. The pamphlet containing the temporary code and discussion of the characteristics of lightning and other matters is well worth reading. The following, I think, will be of general interest to the readers of the SERVICE BULLETIN:

There are four general types of lightning: streak, ball or globular, bead and sheet or heat. Consideration is given only to protection against streak lightning. The immediate cause of lightning is, of course, difference in potential. In studying the causes of this difference, it has been found that drops of water with a diameter greater than 5.5 mm. are unstable when falling through air and break up into smaller drops. In thunder storms there are upward currents that support large bodies of water and at the top of the current there is an accumulation of water in the form of drops continually being broken up into smaller drops. When this occurs, the water is positively charged and the air negatively charged. The moving air carries away the negative ions but leaves the positively charged water behind.

The voltage of lightning is extremely high. To produce a disruptive charge for a flash a mile in length, it has been estimated that the voltage is something like 600,000,000. The amperage is also great. Exact determinations are difficult but the amperage seems to range between 10,000 and possibly [illegible]0,000. The discharges are now considered to be unidirectional rather than alternating, but these may be of an oscillatory character although highly overdamped.

The sound of thunder is believed to be caused largely by a sudden increase of pressure due to heating, dissociation and ionization along the path of a lightning stroke. It is believed that the cause of the illumination is due to the electric field rather than temperature.

Studies of damages occurring in buildings protected and unprotected against lightning indicate that the chance of an unprotected building being destroyed is some 50 times as great as that of a protected building.

With such enormous voltage and amperage, the impression would be gained that lightning conductors would have to be of very great diameter and of material of high conductivity. This is not so since the chief function of a lightning conductor is to provide a path for the stroke of lightning and the effect of the conductor is to make a permanent line of weakness in the dielectric rather than to offer a path of high conductance. From an electrical point of view it makes little difference what a lightning conductor is made of, provided it is of metal.

-------- --------

WASHINGTON NOTES

Kelleter Goes to Syracuse: Paul D. Kelleter, formerly Director of Purchases and Sales for the Department, has just been appointed head of the Extension Department of the New York State College of Forestry. Mr. Kelleter succeeds Mr. Earl S. Peirce, resigned.

The College of Forestry is fortunate in obtaining the services of Mr. Kelleter, who enters forest extension work in New York particularly well equipped. Mr. Kelleter graduated from Washington University at St. Louis in 1902 with the degree of B. A., and received the degree of Master of Forestry at Yale in 1904. He entered the Service in July 1, 1904, as Forest Assistant and was for several years in California engaged in special forest and market studies. In 1906 he was sent to the Black Hills in South Dakota and Wyoming and directed the classification of timber and agricultural lands. In 1909 Mr. Kelleter was promoted to Forest Supervisor of the Black Hills National Forest which comprises 1,250,000 acres. In this position he was responsible for extensive reforestation and timber utilization projects and fire protection plans. From 1910 to 1913 Mr. Kelleter served as representative of the Federal Government and chairman of the board to effect the exchange of scattered school sections belonging to South Dakota for a compact tract of land. The selected tract is now the South Dakota State Park.

Mr. Kelleter was transferred to Washington in 1918 to take charge of the Information Work of the Service, and in 1920 became Assistant Chief of the Branch of Operation. In 1925 the Secretary of Agriculture appointed Mr. Kelleter director of Purchases and Sales to organize and coordinate the purchase activities of the entire Department to conform to the requirements of the budgetary legislation of the Federal Government.

- - - - - - -

A Prize Winner: Joe Santucci, our mimeograph operator, who devotes his spare time to winning prize contests, just added another scalp to his belt. Joe took third prize in an essay contest conducted by the Washington Herald.

FOREST PRODUCTS LABORATORY

Odorless Strawboard Made by Cooperator: Although the Laboratory has been aiding chestnut board, a possible rival of strawboard, the older product has also received aid. A cooperating company has made a commercial demonstration of the method recently developed at the Laboratory for the production of odorless strawboard. Two of our representatives were called to Quincy, Illinois, during the latter part of January to supervise a test which extended over several days. Samples of the product indicated that the strawboard manufactured for a commercial scale is similar to that prepared in the Laboratory as regards strength and freedom from odor. No difficulties were observed during the test, which would indicate that the preliminary work in the Laboratory was properly carried out and that correct deductions were drawn from the results.

- - - - - - -

Eliminating Corrosion in the Neutral Sulphite Process: The Laboratory has again been called upon by the Northwest Paper Company, Cloquet, Minnesota, to assist in the elimination of certain troubles still persisting in the operation of the new neutral sulphite process as applied to aspen. Difficulties with this process during the past two months have so far been eliminated that production is now in excess of that estimated originally as the capacity of the mill. One serious difficulty has persisted, however, in a slight but constant corrosion of the digesters. The recent work of a Laboratory representative indicates that this difficulty can be entirely eliminated with proper and feasible control of the operation.

FOREST EXPERIMENT STATIONS

Pathologists to Cooperate: It is the desire to develop the regional forest experiment stations in such a way that no matter what problem in timber growing may be brought to them, they will be in a position to give an authentic answer. To this end, the Bureau of Plant Industry plans to establish as rapidly as may be possible pathologists at these stations to work upon the forest tree diseases and pathological problems of the region in cooperation with the experiment station. This year, through an increase in one of the appropriations for pathological work, the Bureau of Plant Industry is able to establish men at two of the stations, one at the Appalachian Station at Asheville, N. C., the other at the Northeastern at Amherst, Mass. Because of his long familiarity with local conditions, Dr. Perley Spaulding has been selected as the forest pathologist for the Northeastern Station by the Bureau. He is well acquainted in the region and is the foremost authority in this country, and indeed in the world, upon the white pine blister rust. This choice of Dr. Spaulding is an excellent one, for the blister rust will be one of the vital problems of New England forestry for many years to come. Dr. Metcalf has not yet appointed anyone for the Appalachian Station.

- - - - - - -

The Appalachian Forest Research Council took a flying start at Asheville February 12 and is under the very able chairmanship of W. D. Tyler of the Clinchfield Coal Corporation of Dante, Virginia. With about 16 members present two full days of sessions were held, winding up on the 13th with a lively and thorough discussion covering the prospective work of the council and of the Appalachian Forest Experiment Station. A good set of resolutions was adopted regarding action all along the line in matters of equitable forest taxes, chestnut utilization, State work, fire protection, development of the Appalachian Station, Weather Bureau cooperation, etc.

The Appalachian Council is the third extra-Service organization to begin active cooperation with the Experiment Stations, following the establishment of similar Research Councils in the Lake States and the Northeastern States. Similar organizations are in process of working out in the South and Northwest.

- - - - - - -

DISTRICT 1 - NORTHERN DISTRICT

Forestry Bill Fails: The Montana Forestry Bill, the important features of which were a board of forestry, compulsory patrol and improvement of methods of slash disposal, failed of passage because it lacked support from the lumbering interests and obstructive legislative tactics. Apparently the operators are not yet willing to commit themselves to a policy of forest protection that will adequately meet the requirements of the Clarke-McNary Act.

- - - - - - -

Wolves and Coyotes Wanted: Mr. J. F. May, [illegible] Union Trust Building, Cleveland, Ohio, has requested the District Forester at Missoula to secure for him, if possible, a pair of wolf whelps and also a pair of coyote whelps. He states that it is his intention to cross them with dogs so as to raise a type of police dog somewhat smaller built than the regular police dog type. Any Forest officer who is in a position to furnish either coyote pups or wolf pups should correspond with Mr. May direct.

- - - - - - -

Supervisors' Meetings: Three group meetings of Supervisors will be held during this month. The main problems to be discussed will be better use of time and money through planning and execution, development of inspection methods and personnel policies.

- - - - - - -

DISTRICT 2 - ROCKY MOUTAIN DISTRICT

New Contract with Wyoming Tie & Timber Company: A new contract has just been entered into with the Wyoming Tie & Timber Company, which has been operating on the Washakie Forest for the past eleven years. This contract provides for the completion of cutting on the area which they have had under contract during this period. The estimated amount of timber included is 3,000,000 standard gauge hewed railroad ties and 27,000,000 bd. ft. sawlogs, with an unestimated amount of material suitable for mine props to be removed at the option of the purchaser. Stumpage rates for hewed railroad ties is 10¢, and that for sawlogs is $2.20, representing a material increase over rates which have been in effect heretofore.

- - - - - - -

Personnel Changes in D-2: The following changes among Supervisors in D-2 have gone into effect. Ross Philips of the Pike is transferred to the District Office, Operation, to take charge of minor roads and trails. A. G. Hamel of the San Isabel goes to the Pike and H. E. French of the San Juan takes over the San Isabel. G. M. Hunter, Assistant Supervisor of the Holy Cross, is promoted to Supervisor of the San Juan and C. B. Mack, Assistant Supervisor of the San Juan is promoted to Supervisor of the Cochetopa to succeed F. B. Agee who goes to the Bighorn Forest, since Supervisor Spencer of the Bighorn has been transferred to the District Office, in the Office of Forest Management, succeeding E. W. Tinker, who takes over the Office of Lands since Mr. Stahl succeeded C. M. Granger as Chief of Operation.

-------+-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Special Commission Visits District: Pursuant to a policy adopted by the War Department whereby military reservations that are timbered or suitable for the growing of timber will be covered by a cooperative agreement with the Forest Service and included within National Forests, a special commission has visited the Southwest for the purpose of examining the Fort Huachuca Reservation in Arizona. The commission consisted of three members, Colonel Knox and Major Prentiss of the War Department and Captain I. F. Eldredge of the Forest Service. The Fort Huachuca Military Reservation contains about 43,000 acres, of which 4,000 acres are western yellow pine sawtimber, approximately ten million feet; 20,000 acres woodland, about 100,000 cords of cordwood; and the rest grass land. Half of the area is high rough mountains with range of altitude from 4,400 to 8,600 feet. If the proposed agreement is approved, the reservation will be added to the Coronado National Forest.

- - - - - - -

First D-3 Exchange Completed: The first exchange of lands within the National Forests of District Three under the Act of 1922 has been completed and title has been accepted by the United States. It consists of 293 acres of timbered lands in three units on the Vallecitos Division of the Carson Forest, in exchange for 800 acres of open grass land adjoining the Forest boundary and located about one mile north of the town of Tres Piedras. The lands acquired were patented under the mining laws in fifteen claims. Acquisition through exchange was found to be warranted because of the absence of true mineral values.

--------#--------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Bill to Limit Elk: A bill has been prepared for introduction in the Utah legislature, providing for an elk control commission to be made up of the State Board of Examiners and State Game Warden. This commission is to consult with county commissioners and National Forest officers to determine the maximum number of elk to be permitted upon given units of public domain or National Forest land. After this number is determined, in case the natural increase brings the herd in excess of the allowable maximum, the State Game Warden may authorize the removal of the excess by issuing hunting permits at $[illegible].00 each. One-half of the receipts from these licenses goes to the county and half to the State predatory animal fund. Hearings on this bill were held yesterday before the Senate Committee.

- - - - - - - -

Porcupines on the Weiser: Last spring the Weiser Forest started to conduct an experiment in porcupine extermination in cooperation with Mr. [illegible] Crouch of the Biological Survey. An area badly infested with porcupines was selected for the experiment and two methods were tried. Holes were bored in 2 x 4's cut in 6" lengths. The holes were 1 to 1½" deep and 1" in diameter. They were then filled with salt and strychnine and nailed up in trees where stock would not be apt to get the poison.

Apples were also sliced up and the baits poisoned with a mixture of 1/8 oz. powdered strychnine to 1 tablespoon of table salt. This mixture of strychnine and salt was mixed with about 1½ quarts of sliced apples. Difficulty, however, was found in placing these apple baits where they would not endanger livestock and the method is not recommended. About 13 of the blocks were put out and a subsequent examination showed that the poison was taken, either in whole or in part, from 11 of the 13 blocks, although only 8 porcupines were actually found. It seems probable that a larger number were killed."

While the method did not prove to be as successful as we had hoped, it is believed that considerable good was done and probably could be improved on by making a study of the habits of the porcupines in order to be able to place the blocks in the most likely location, considering the time of year that the work is carried on.--W.B.R.

------- -------

DISTRICT 5 - CALIFORNIA DISTRICT

Forester Approves Management Plan on Modoc: The Forester has approved the management plan for the Pit River-Goose Lake Valley Working Circle on the Modoc National Forest, which comprises about 97,000 acres of merchantable timberland and 135,000 acres of nonproducing forest land. Eighty-nine per cent of the timber-producing land is in Government ownership. The estimated stand is 1,263,000 M feet Government and 155,000 M feet privately-owned timber. A rotation period of 120 years has been adopted. The plan provides for two cutting cycles of 60 years each, during the first rotation. In the first cutting cycle, approximately 80 per cent of the merchantable stand on Government land will be cut, leaving an average reserve stand of about 2,900 feet per acre in trees 12 inches and larger. In the second cutting cycle the cut will comprise the reserve of merchantable timber left during the first cut and the trees now in pole classes which will have grown to merchantable size by that time. It is predicted that the second cut will be slightly heavier than the first cut.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Training the Young Idea to Shoot: Several members of the Snoqualmie office have been designated as examiners for Boy Scout Merit Badges on Forest Conservation, Forestry, Pioneering and Camping. During the winter months fifteen to twenty examinations are given each month. The importance of protecting the forest from fire is emphasized in all the examinations.

- - - - - - -

That's Different: One of the Colville Rangers, while out to make a timber sale, took the prospective buyer with him; after they had wallowed around in the snow for an hour or so, the prospective buyer decided he didn't want the timber if he had to go along - yet, he,like others, thought the Forest Ranger had a nice job, walking around in the woods listening to the birdies sing.

Reforestation Boost: The Post Intelligencer, a Hearst paper of Seattle, has recently adopted a reforestation policy and in line with that policy, Mr. Fussell, one of the P. I. staff, called at Supervisor Weigle's office to secure information and suggestions along that line. Needless to say, he was assured of our hearty cooperation and given much information.

- - - - - - -

Vital Statistics - Interesting and May be True: The Siskiyou region (California portion) is a terribly crooked country, according to the latest information. This startling assertion is contained in a recent publication of the University of Oregon, which says in proof thereof that a train passing over the Siskiyous into California would, if all the curves were added, make 76 complete circles.

-------#-------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 13. Washington, D. C. March 23, 1925.

POOLER PASSES HIS TWENTY-FIRST ANNIVERSARY

DEPARTMENT OF THE INTERIOR

Washington, March 1, 1904.

FRANK C. W. POOLER of Vermont is hereby appointed a FOREST RANGER OF THE GENERAL LAND OFFICE at a salary of Sixty Dollars per month, to take effect when he shall file the oath of office and enter on duty.

Each Ranger is required to provide himself with a saddle horse and equipments at his own expense, for use in the discharge of his duties.

THOS. RYAN

Acting Secretary.

- - - - - - - -

Twenty-one years ago, March 10, my active connection with the National Forest work began under the foregoing appointment and has continued without a break to the present time.

Most decidedly times have changed. My equipment, on reporting for duty, consisted of a weather-beaten scale stick, a marking hatchet, a broken-down garden rake, and a two-inch badge; my instructions, a small, red-covered manual and verbal orders to make myself at home on the Crown King District of the Prescott at whatever point I chose to select for headquarters.

My immediate predecessor, then resigned, was to supply additional information, but he never did. Needless to say, with official station so indefinite there were no headquarter improvements - each Ranger made his own arrangements largely to suit himself. There were no traveling expenses; in fact, Supervisors received Sunday pay only as they worked on

DISTRICT 5 - CALIFORNIA DISTRICT

Forester Approves Management Plan on Modoc: The Forester has approved the management plan for the Pit River-Goose Lake Valley Working Circle on the Modoc National Forest, which comprises about 97,000 acres of merchantable timberland and 135,000 acres of nonproducing forest land. Eighty-nine per cent of the timber-producing land is in Government ownership. The estimated stand is 1,263,000 M feet Government and 155,000 M feet privately-owned timber. A rotation period of 120 years has been adopted. The plan provides for two cutting cycles of 60 years each, during the first rotation. In the first cutting cycle, approximately 80 per cent of the merchantable stand on Government land will be cut, leaving an average reserve stand of about 2,900 feet per acre in trees 12 inches and larger. In the second cutting cycle the cut will comprise the reserve of merchantable timber left during the first cut and the trees now in pole classes which will have grown to merchantable size by that time. It is predicted that the second cut will be slightly heavier than the first cut.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Training the Young Idea to Shoot: Several members of the Snoqualmie office have been designated as examiners for Boy Scout Merit Badges on Forest Conservation, Forestry, Pioneering and Camping. During the winter months fifteen to twenty examinations are given each month. The importance of protecting the forest from fire is emphasized in all the examinations.

- - - - - - -

That's Different: One of the Colville Rangers, while out to make a timber sale, took the prospective buyer with him; after they had wallowed around in the snow for an hour or so, the prospective buyer decided he didn't want the timber if he had to go along - yet, he,like others, thought the Forest Ranger had a nice job, walking around in the woods listening to the birdies sing.

Reforestation Boost: The Post Intelligencer, a Hearst paper of Seattle, has recently adopted a reforestation policy and in line with that policy, Mr. Fussell, one of the P. I. staff, called at Supervisor Weigle's office to secure information and suggestions along that line. Needless to say, he was assured of our hearty cooperation and given much information.

- - - - - - -

Vital Statistics - Interesting and May be True: The Siskiyou region (California portion) is a terribly crooked country, according to the latest information. This startling assertion is contained in a recent publication of the University of Oregon, which says in proof thereof that a train passing over the Siskiyous into California would, if all the curves were added, make 76 complete circles.

-------#-------

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 13. Washington, D. C. March 23, 1925.

POOLER PASSES HIS TWENTY-FIRST ANNIVERSARY

DEPARTMENT OF THE INTERIOR

Washington, March 1, 1904.

FRANK C. W. POOLER of Vermont is hereby appointed a FOREST RANGER OF THE GENERAL LAND OFFICE at a salary of Sixty Dollars per month, to take effect when he shall file the oath of office and enter on duty.

Each Ranger is required to provide himself with a saddle horse and equipments at his own expense, for use in the discharge of his duties.

THOS. RYAN

Acting Secretary.

- - - - - - -

Twenty-one years ago, March 10, my active connection with the National Forest work began under the foregoing appointment and has continued without a break to the present time.

Most decidedly times have changed. My equipment, on reporting for duty, consisted of a weather-beaten scale stick, a marking hatchet, a broken-down garden rake, and a two-inch badge; my instructions, a small, red-covered manual and verbal orders to make myself at home on the Crown King District of the Prescott at whatever point I chose to select for headquarters.

My immediate predecessor, then resigned, was to supply additional information, but he never did. Needless to say, with official station so indefinite there were no headquarter improvements - each Ranger made his own arrangements largely to suit himself. There were no traveling expenses; in fact, Supervisors received Sunday pay only as they worked on

Sundays, and rented and furnished their offices out of salaries running from $2400 down - always, remember, on a per diem basis. There were no such things as annual or sick leave; no supplied forage; no general fire equipment; no telephone lines; no improvement fund; and Rangers maintained (that is to say, more or less kept up) from one to a dozen horses to suit individual taste.

My first timber trespass was a fake. After ten days or so on the District I discovered a timber operation - cordwood and lagging - operating in an excellent Douglas fir stand. Some 150 to 200 burros were busily packing out the finished product and I shut down the operation, reporting the trespass to my Supervisor only to learn that I was dealing with a timber sale, the existence of which had not been reported to me by my Ranger predecessor. With the help of Leon F. Kneipp, now Assistant Forester in Lands, and other Forest officers, this was later developed into a bona fide timber trespass after all, based on cutting unmarked timber and removal of material without scaling.

My first grazing trespass consisted of the personal removal of goat which had been trespassing on the Forest off and on for five years, although no goats were permitted on the Prescott Forest at that time.

My first real fire was put out with the assistance of section men and mining employees impressed into service since there were no Federal funds available for the hire of fire fighters.

Grazing permits were free, were issued by the Supervisor or the Commissioner of the G. L. O. (I never knew which) and were made out for 10% to 1,000% of the stock a man actually ran; with many individuals unsupplied with permit. There was free use of timber in those days on Supervisor permit, but no timber could be sold without approval of the Commissioner in Washington and after ninety days advertisement, so it usually took six months to get even a small sale through. Needless to say, there was considerable timber trespass.

Report work was confined to periodic timber cutting reports, claims reports, and the monthly service report and salary voucher, which brought returns from the Treasurer a month or more later, and at the close of the fiscal year usually two months later.

It is a far cry from conditions then to those now. During this period most of the National Forests were established and most of the privately-owned range improvements were built and unutilized ranges developed, stocked, and finally overstocked - something we are in process of correcting. During this period, too, the entire Forest Service improvement plant has been built up, starting with the first improvement appropriation for the fiscal year 1908. Likewise, during this period the classification work was begun and concluded, beginning with the passage of the Act of June 11, 1906, and its administration, passing through general classification to the present or recall period on the one hand and conclusion of the final claims report period on the other. In this period the whole uses system has been worked out. In fact, since this period includes the whole life of the Forest Service as such, it also includes the making of all Forest policy in all lines of work.

In the stress of effort to perfect the organization of the Service, establish and correct boundaries, handle the Lands work, put grazing under permit, develop a fire system, and build an improvement plant; adequate attention has not always been given to the physical condition of the Forest property itself. This is unfortunate, but is rapidly being corrected and to-day we are in a new stage of Forest administration, one in which major attention is being focused upon this very fundamental feature. It is an even more attractive stage than the earlier formative and organization stages; it is a more appealing one to forestry instincts and one that demands forestry viewpoint on the part of all Forest officers who expect to succeed and advance in the Forest Service. Hence the trend of inspection in this direction.

I am never going to regret the devotion of this period (half of my life) to so worth-while a movement as American Forestry. Knowing what I do of past progress I am never going to allow myself to be discouraged for long with the progress we are making along administrative and physical Forest improvement lines. I am never going to lose the feeling that each day with its new problems is a test of administrative fitness for the going job, and I hope that each member of the Service will get as much satisfaction out of his or her association with American Forestry as has been my lot.

--------#--------

A BUSHEL OF NEWSPAPER CLIPPINGS

By John B. Cuno, Washington

During approximately the last 9 months of 1924 there came into the hands of the Forest Service a mass of newspaper clippings relating to forestry, lumbering, etc., clipped by five news bureaus. The clippings (enough to fill a bushel basket) were sorted and classified as nearly as possible into the headings on the attached table, and were measured in an effort to determine what subjects received most space, what per cent of each subject was treated editorially, what per cent as news, etc. The table tells the story. Forest fires took over 25 per cent of the space, reforestation about 15 per cent, and the lumber industry 12 per cent. The National Utilization Conference on Forest Products received wide publicity, due to the participation of President Coolidge. Two-thirds of the space devoted to the conference, and over 50 per cent of the space devoted to the Clarke-McNary Law and to Christmas trees, was treated editorially.

Dr. Frank Crane's article "Forestry" which discussed the Clarke-McNary Bill appeared in twenty different clippings. The Frederick Haskin letter, and the Erie Railroad Forestry Exhibit Train received broad publicity.

The table may contain some things of interest to publicity men, but in viewing it bear in mind that it was a very difficult matter to classify each clipping under the subject given. Some clippings treated half a dozen subjects and were thrown under one subject only because they appeared to emphasize that subject. The table is presented for what it may be worth.

Analysis of Newspaper Clippings - Last 9 Months of 1924

Subject	Columns of space	Per cent of total columns	Columns of editorial	Per cent editorial columns are of space columns	Number of articles
Forest fires	260.1	27.6	54.3	20.9	742
Reforestation	139.6	14.8	37.8	27.1	340
Lumber industry	114.8	12.2	6.9	6.0	357
Conservation and resources	80.4	8.5	31.2	38.8	192
National Conference on Utilization of Forest Products	59.4	6.3	39.0	65.7	132
Other utilization	46.2	4.9	7.5	16.2	98
Clarke-McNary Law	48.5	5.1	25.9	53.4	103
Other legislation	56.8	6.0	19.1	33.6	114
Recreation	41.2	4.4	13.5	32.8	86
National Forests	15.9	1.7	3.1	19.5	55
Forest Experiment Stations	20.8	2.2	1.4	6.7	38
Christmas trees	17.3	1.8	10.6	61.3	46
Redwoods	12.9	1.4	2.4	18.6	16
Pulp and paper	12.3	1.3	3.5	28.5	22
Game	9.0	.9	1.3	14.4	21
Taxation	8.2	.9	1.7	20.7	14
Total	943.4	100.0	259.2	-	2,376

DE TROMBICULIS (or UP TO THE SCRATCH)

By Daytonius, Washington

"Children should be seen and not heard" is an old adage. Apparently this is not observed with chiggers, whose youth - while perhaps not heard - is (alas) not wisely but too well seen and felt. It seems odd to learn that the adult stage ("instar") of the chigger has been absolutely unknown until very recently, and some bejiggered members of the Service may be interested in the brief paper, "The Adult of our Common North American Chigger," by H. E. Ewing, which appeared in proceedings of the Biological Society of Washington, Vol. 38, pp. 17-20 (March 12, 1925), wherein is found the first and only illustration of an adult chigger (Trombicula irritans).

One-hundred-per cent-American Chigger,-
You are sure a boresome figger.
  To burrow, O Trombicula,
  Ah me! Howdomquick you are!

-------#-------

FOREST PRODUCTS LABORATORY

Alcohol from Extracted Longleaf Chips: The cooperative work to determine the suitability of extracted longleaf pine chips for the production of alcohol undertaken for The Hercules Powder Company was finished during the month. It was found that a yield of fermentable sugars sufficiently high to bring the production of alcohol within the range of commercial feasibility could be obtained by screening out about 25 per cent of the finer portions of the wood. Although a final decision has not been made, it seems very likely that the company will decide to install an alcohol plant for the utilization of a large part of their extracted chips.

- - - - - - -

Liaison with Forest Schools: Arrangements were entered into with some of the eastern forest schools to have Mr. Koehler spend three days at each school giving them information on the work of the Laboratory and the opportunities for research in forest products. The schools are to cooperate to the extent of paying the traveling expenses.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Equipment Committee Makes Recommendations: Among the recommendations of the District 1 Equipment Committee, which consists of seven members, Supervisors and field-going District Office men, at its annual meeting in Missoula, are several items of particular interest.

It was recommended that Stonebridge folding lanterns and hard candles be provided for night travel of firemen as an alternative for the miner's carbide lamp now in use; that the Perkins combination fire tool is worth while and that an effort should be made to get 5 dozen of them made up and distributed in the field. It was deemed necessary that the Forest Service as an employer conform to the common practice of lumber and mining companies and other employers of labor in furnishing all bedding for temporary employees. It was agreed that a fire fighter's bed should consist as heretofore of a double and single wool blanket, a light tarp, and an army shelter-half. This makes a neat roll weighing about 20 pounds. A bed for guards, trail and road crews, and temporary men other than fire fighters should consist of six thicknesses of blanket, two of which may be shoddy, a tarp and a bed tick, to be filled with hay or bear grass. Army steel cots should be provided for men who live in buildings or in accessible camps where transportation is easy.

It was agreed that a number of Oliver No. 155 reversible plows should be purchased and made available for trail construction, and that the new trail grader now under development should be given a thorough trial on several Forests next season, with a view to further substituting horse power for expensive hand labor in trail construction and maintenance.

A more general use of gasoline power pumps was endorsed, but the conclusion was that available data and experience so far do not indicate any single make of pump as being the best one to purchase.

- - - - - - -

3½ Million Carloads Forest Products Shipped Last Year: The January National Lumber Bulletin presents figures showing that the railroads in the United States loaded 3,650,309 cars of forest products during 1924 and that approximately 2,000,000 tons went from the Pacific to the Atlantic by way of the Panama Canal. The railroad loadings fell somewhat below those for 1923, but water shipments increased materially, so that the quantity of forest products actually shipped was not much different from the 1923 high peak. The only single product that exceeded forest products in the number of cars loaded was coal, of which there were about 9 million cars. Next following forest products came grain products, with 2½ million cars, and then livestock, with 1½ million cars. March was the month of heaviest loadings of forest products with 405,777 cars. The total loadings of all commodities for the year was 48,527,227 cars, of which the forest products loadings formed something over seven per cent.

-------------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

A Tribute: The following resolution was adopted by the Board of Directors of the Pueblo Commerce Club upon Mr. Hamel's transfer to the Pike Forest.

"As Supervisor of the San Isabel Forest, Mr. Hamel has been a pioneer in the work of recreational development, and his services along that line, in a field of national development hitherto unexplored, have been crowned with splendid accomplishment, and have been of inestimable benefit both to the State and the Nation, to the people of Pueblo and its neighboring communities, and to all the rapidly increasing throngs of seekers for pleasure and recreation in the National Forests.

"During his residence in Pueblo Mr. Hamel has won the sincere regard of the people of this community by his interest in matters of public benefit, and his readiness to give official and personal service. The cooperation of the people of Pueblo and neighboring communities in the work of recreational development and their cordial approval of the unfolding plans of the forestry bureau are largely the result of the personal tact and good judgment of Mr. Hamel.

"Sincerely regretting his departure, and with sincere wishes for his future good fortune, the directors of the Pueblo Commerce Club hereby formally record their appreciation of his personal worth and official service."

- - - - - - -

Game Legislation: The State of Wyoming has passed a bill providing for the nonpartisan commission form of game administration. A similar bill has been reported out of committee in the Colorado Legislature. It has the endorsement of a large number of local game and fish associations in the State and the Izaak Walton League, but it is being strenuously opposed from certain quarters, and it cannot be predicted at this time what the final outcome will be.

- - - - - - - - - - - - - -

DISTRICT 3 - SOUTHWESTERN DISTRICT

Conference Discusses Controlled Fires: An outstanding feature developed in the 1935 D-3 fire conference was the unanimous opinion on the part of the conferees that disciplinary action should follow if a forest fire once controlled is allowed to escape. It was cited that disastrous conflagrations have come about through the breaking out anew of fires that have been placed under control, pronounced safe, and left before they were dead out. The conference agreed that such action on the part of a Forest officer should merit disciplinary procedure probably in the form of furlough of the officer concerned.

- - - - - - -

Forest Homestead Claims Decrease: During 1924 District 3 listed for homesteading a total of 23 parcels of land. The number of possible listings is growing smaller each year. Against the new listings, final action was taken during the year in 155 claims cases. This is the smallest year in claims work for many years and only about half of the normal for the past several years.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Idaho Forestry Bill Passes: The Idaho State Forestry Bill is now a law. The House passed it unanimously, the Senate by a vote of 26 to 19, and the Governor signed it March 5. The law provides for a Forestry Board who will outline a State forestry policy and recommend the appointment of a State Forester charged with the administration of the law. All forest landowners are required to furnish fire protection for their lands and operators are required to either pile and burn their brush or secure the approval of the State Forester to some other method of disposal.

We believe this is the most forward step that the State has taken in a number of years. Friends of forestry and conservation have State Land Commissioner I. H. Nash and Governor C. C. Moore to thank for the passage of the act. Governor Moore recommended legislation of this character in his message and favored the bill as drawn. Mr. Nash got squarely behind the bill and pushed it over. A number of the forward looking lumbermen also worked hard on the measure. The influence of Forest Service policies, and particularly Forest Service principles as shown by actual results on the ground also played a very important part in laying the foundation upon which the great structure of a forest policy and forest law for Idaho is builded.

- - - - - - -

Lumber Goes Far: There is a sawmill in this District which cuts about six million feet a year - not a particularly large mill, therefore. Its product is shipped to 19 States. Illinois receives the largest amount, followed in order by Iowa, Minnesota, Wisconsin, Michigan, Ohio, Pennsylvania, Idaho, New York, Colorado, Utah, Kansas, Indiana, Nebraska, West Virginia, Missouri, New Jersey, Wyoming and Massachusetts. Who says there is no shortage of timber in the East and that the Forests of the Intermountain region will never play any part at all in supplying this shortage?

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

"There's Nothing Lost by Being Wise": During a recent trip to the Sacramento Valley towns, I met many friends that I had made while on their hunting trips on the Trinity. At one meeting in the Elks' club room, where I met several sportsmen and men with influence, I had the pleasure of explaining just why the light burning policy was a failure. Many questions were asked, such as the number of acres on the Trinity National Forest, the number of deer, etc. I happened to know the approximate acreage and that the estimated number of deer was about 26,000, but some of the questions made me do some good, deep thinking, in order to answer directly, or find a way around without exposing my ignorance. This experience has brought to my attention the fact that a Forest officer should be primed on all angles of his work so that when mingling with the outside public, he will be able to answer all questions promptly.--A Trinity Ranger.

- - - - - - -

Cheap! Cheap! Cheap! A cache of 40 tons of surplus war dynamite was recently found near San Francisco. The Bureau of Public Roads agreed to turn this over to the Forest Service at 1/4 cent per pound for use on minor roads and trails. This powder cost us $230. A saving of nearly $5,000 was thus effected over purchasing pyrotol at Dupont, Washington, and $15,000 over purchasing the powder at commercial rates.--F.D.B.

-------------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Sign Shop: The District Office sign shop, in charge of Forest Ranger Weisendanger, ran from November 1 to February 1. During the month of December 1,077 road and trail signs were made for seven different Forests, crated, stamped (1935) and shipped. During January, 1,683 signs for fifteen different Forests were made, crated and shipped. The Sign Shop closed January 31, as all orders received had been filled. A total of 2,760 signs was turned out.

- - - - - - -

Resort Permit Issued for Odell Lake: Arrangements for recreational development at Odell Lake on the crest of the Oregon Cascades to accommodate the tourist travel expected as a result of the Natron Cut-off of the Central Pacific Railroad development, have been completed.

A twenty-year term permit has been issued to [illegible]tson, well-known hotel and restaurant man of Portland, covering hotel, store, boat landing, and oil and gas station. Plans call for the expenditure of over $30,000 in permanent improvements and equipment. Buildings are to be of rustic type, log construction, in harmony with the forest setting.

--------#--------

DISTRICT 7 - EASTERN DISTRICT

Great Heterodynes! Ranger Dahl on the Unaka, with the assistance of his three guards, has completed the agricultural census in Unicoi County, Tennessee. At one house where he asked a farmer's wife if there was a radio on the farm, she replied, "No, Sir, and there never has been; we never made liquor in our lives."

- - - - - - -

Campaign Against Woods Burning: The first intensive educational drive against the woods burning bugbear on the White Rock District of the Ozark National Forest has been most efficiently carried out by Rangers Jim Mason and Jack Curry. The working equipment consisted of an home projector, generator, balopticon, six reels and three sets of slides, and, of course, the trusty Ford.

Various calamities overtook the two enthusiastic but inexperienced campaigners during the first two days. The generator belt broke twice in the middle of interesting reels, necessitating a shutdown. Finally, however, things were patched up and five good "meetins" were held.

Schoolhouses right back in the woods were used for the shows. [illegible] offering. The interest shown was remarkable - especially when one considers the woefully inadequate equipment. The [illegible] hours were spent by Mason and Curry pushing the jitney up slippery mountain sides and pulling out of mud holes. Everyone believes, however, that results will more than pay for all the effort. A second similar drive on this district is planned for May.

--------#--------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 14. Washington, D. C. March 30, 1925.

WHAT DOES IT COST TO GROW TIMBER?

By L. T. McLaurin, Pike

When we market a thousand feet of stumpage, should we know what the cost of that thousand feet has been to the Government? Could we know if we wanted to?

We now ascertain quite accurately the cost of selling and administering the sale of timber, but surely no thinking person considers that this is the cost of the timber brought to the market. Protection costs are not included. Improvements necessary in caring for the timber; costs of timber surveys, management plans, research experiments, etc., all of which contribute to the cost of the marketed product, are not provided for in our present scheme of ascertaining the cost of timber cut.

In an organization which professes to be engaged primarily in the production of timber, is the accounting end of the organization functioning properly if it fails to show the cost of timber production? A severe criticism has recently been launched against the Forest Service for not showing costs of our activities to the taste of the critic. In this instance the criticism can probably be satisfactorily answered if it goes no deeper than has been indicated. But what if we should be asked for the average cost of production as well as for the cost of marketing the timber we sell? Could we answer that satisfactorily?

Under a certain law we are authorized to sell timber "at actual cost, to homestead settlers and farmers," etc. Do we do it? That depends on what you mean by actual cost. Does a factory measure the cost of its product by its cost of selling and marketing?

Does it cost the Government any material figure for growing and managing timber, or is the timber that we are now selling free of all costs of growing and managing and protecting?

Suppose that on a Forest fifty million feet of timber are grown annually and that the present rate of cutting is at the rate of five million feet annually. Suppose that the ascertained cost of protecting, management plans, timber surveys, improvements, etc., is $10,000 annually. Is it not fair then to say that one-tenth of this annual cost, or $1,000, or 20 cents per M ft., is a production cost of the timber sold, and that $9,000 goes into investment to bring the forest to a regulated one?

We speak of having regulated Forests in a hundred or two hundred years. If financial control continues in the present form, how can we say what has been invested to bring that Forest to the regulated stage? Does it matter?

Do the people have a right to know what their investment amounts to in their National Forests, and what it costs to produce timber on them? If forestry is an economic problem, why not?

THE MASS IMPACT

By Geo. E. Griffith, D-6

The president of one of our western institutions of higher education, introducing a Forest Protection Week speaker, said: "Many of us are weary of a multiplicity of 'Weeks' and long for a 'Weekless Week.' Forest Protection Week, however, is different. It is distinctly worth while, and merits the best attention of every one of us."

Again and again I have heard the same thought expressed by educators, ministers, and other leaders of public thought. In fact, where the week is consistently carried on year after year, it comes to be planned for in the church, school, or club program, and acquires an increasing momentum each year.

The chief value of the week, however, is in utilizing the force of a massed impact on the public consciousness. A man may hear one talk, or read a warning slogan, and forget it. But where American Forest Week is properly carried out, he has the same message constantly reiterated from many points. He hears about it at his club, reads about it in the editorial section, sees slogans in ads, passes window displays, and perhaps is tagged by some Boy Scout and asked to sign a fire prevention pledge. The minister preaches a sermon on it, the mayor proclaims it, and the children come home from school talking about it. In a word, the subject is focused and crystallized, and the idea of forest protection is distinctly implanted in the public mind just at the time when people are beginning to plan camping trips.

Shrewd national advertisers are recognizing the mass impact value of a week, and are utilizing it as the hammerhead of their drives for national distribution. Get enthusiastic over the possibilities of our week, believe in it, and see how that enthusiasm is contagious, breeding cooperation and a desire to "get on the band wagon."

-------#-------

SOME PRACTICAL USES OF GRAZING RECONNAISSANCE DATA

By D. A. Shoemaker, Washington

While grazing reconnaissance has been a recognized Forest Service activity for some 10 or more years, I gained the impression during the past summer that its value and importance are generally neither fully recognized nor appreciated. I will not attempt to show all of the important uses that can be made of grazing reconnaissance data but merely point out a few valuable and entirely practical ones which are being satisfactorily applied in a number of places but which it is believed are not usually recognized, or at least are not being generally put into practice.

One of the usually paramount problems on a cattle range is that of securing uniform and seasonal distribution of the stock with even use of the forage at the time it should be used. Forage acre estimates give a uniform measure of the forage, are the most reliable indicators of carrying capacity and show accurately the relative carrying capacity of any part of the unit to that of the rest of the unit. Therefore they form an admirable basis upon which to build distribution plans.

Oftentimes the reconnaissance data are used only to show the carrying capacity of a cattle range which frequently is considerably less than the present permitted numbers. Usually it is not possible or at least not feasible to reduce numbers to the estimated carrying capacity in a year or in several years. The estimated carrying capacity should be set up as a goal toward which to work and then we should come down to earth and make a range management plan for the numbers of stock that are actually going to be on the range. For instance, if the estimated carrying capacity of a certain area is 1,000 cattle, the ranger particularly wants to know how these should be handled on the range to secure its best use and protection, but if there will be 1,250 on the area the coming season it is just that much more important that they be properly handled in order that the least possible damage will be done.

The essential features of a range management plan for such an area should show the number of stock that should graze each unit and the dates between which they should graze it. These units may be of any size, even down to the area that stock would naturally use from each individual salt ground. Their size will be governed by the condition of the range, the amount and distribution of forage, the topographic features, the range water, and by the degree to which it is going to be practical to secure handling of the stock. At least the principal seasonal zones and the larger lateral distribution units should be provided for in the distribution plan.

In the case previously mentioned, determine the average forage acre available for each of the 1250 cows for each month of the season by dividing the total number of forage acres on the unit by 1250 and then by the number of months. If this shows, for instance, that there are 6/10 of a forage acre available for each cow per month then the cattle should be distributed in accordance with the amount of forage. If the total number of forage acres in each seasonal zone or other distribution unit is divided by 6/10 the result will be the relative cow months carrying capacity of that unit, which, if divided by the number of months the unit should be grazed, will give the part of the 1250 head which should go to this unit. Of course a range will be seldom found where the carrying capacity of the different seasonal zones is the same, but the dry computation will indicate what the stock distribution should be and will offer a sound basis upon which to work out a practical distribution plan.

Knowing the number of stock that should be on each unit and the time they should be there, you have the basis for the salting plan.

A lot can be accomplished in securing more uniform use of a cattle range if definite plans for distributing the stock and the salt are carried out at the time the stock first come on the range. If this be done the cattle are placed where there is feed, salt, and water and they will come much nearer to remaining properly distributed and to uniformly utilizing the forage than if they are allowed to locate themselves at the beginning of the season and an attempt made later to distribute them.

The above discussion should indicate also the use that may be made of reconnaissance data in adjusting sheep allotments or the numbers of stock in them so that each band has its proper share of the range and also in determining the relative carrying capacity of different units of a sheep allotment as a basis for deferred, rotation, or deferred and rotation grazing.

There is another important use of grazing reconnaissance data of which I have seen very little recognition. A well-prepared reconnaissance type "write-up" shows to the best knowledge and judgment of the examiner the proportion of the whole type that is made up of each herbaceous and shrubby species. While the percentage given each species is an estimate, it is believed they are quite accurate. On a broad scale, then, these "write-ups" serve as "list quadrats" which may be used in future years, in the same manner as any list quadrat, to indicate the changes in the vegetation and to determine whether the range is improving, holding its own, or deteriorating. Where standard quadrats have not been established and charted or listed, I believe detailed reconnaissance type "write-ups" constitute the next best range records that can be made. Of course charted or listed, definitely-located quadrats are essential in investigative work and offer a means of accurate, indisputable evidence in connection with any range study. These detailed records of the vegetation offer an excellent basis upon which to check the examiner's estimates of carrying capacity and his opinion as to the condition of the range.

WASHINGTON NOTES

Associate Forester Sherman is at present in Saint Louis, where he will address the Saint Louis Chamber of Commerce and the Lumber Retailers.

- - - - - - - -

Mr. S. B. Show has returned to District 5 after a two months' detail to Washington. A great deal of his time was spent upon the development of standard methods for appraising forest fire damage.

- - - - - - - -

The Forest Ranger's Job was shown by Ranger Wiesendanger at six schools in Portland, Oregon, reaching 3525 children, some of whom had never before seen a Department of Agriculture film. Mr. Wiesendanger reports that there was a majority of Japanese and Chinese children in one of the groups. A message like this to 3500 children is well worth while.--H.R.K.

- - - -#- - - -

FOREST PRODUCTS LABORATORY

The Advertiser as a Conservationist: The Forest Products Laboratory was recently visited by a representative of the advertising department of the SATURDAY EVENING POST. He came here to inquire into the future supplies of American furniture woods. The Post's interest in furniture woods was, of course, gratifying, but it somewhat puzzled us until the reason for it was explained as follows:

Furniture, in the opinion of the Post's advertising experts, represents one of their important future assets in the way of sale of advertising space. It is important for them to be able to predict the probable extent to which furniture will continue to be made out of wood and the extent to which other materials may take the place of wood. The future supply of furniture woods is obviously the biggest factor in determining this question.

This represents a new kind of force at work to promote American forestry. Furniture makers have heretofore not been very keenly aware of any danger of exhaustion of their raw materials. When, however, their advertising media begin to remind them that it is high time for them to take an intelligent interest in their raw-material supply, we may expect a new kind of attitude toward forestry questions. This incident fits in remarkably well with the keynote of the recent Utilization Conference, in which the emphasis was placed primarily on forests as a raw material for industry as distinguished from forestry as a more generalized public welfare proposition.--A.L.

DISTRICT 1 - NORTHERN DISTRICT

Predatory Perambulators: A biologist at the University of Iowa submits the following to "Science" for January 16, 1925.

"It will be sufficient to point out that on a summer motor trip of 632 miles over Iowa roads, 29 species of our native and introduced vertebrate animals, representing a total of 225 individuals, were found dead as a result of being crushed by passing automobiles, and that this agency demands recognition as one of the important checks upon the natural increase of many forms of life. Assuming that these conditions prevail over the thousands of miles of improved highways in this State and throughout the United States, the death toll by the motor car becomes still more appalling.

"The details of our findings are herewith recorded in tabular form:"

Following the above was published a long list of reptiles, birds and animals killed by automobiles. Strange to say, the number of birds heads the list, and most numerous of all is the red-headed woodpecker. This is ascribed to the fact that this bird has a habit of picking up kernels of grain along the roads and is slow in the get-away.

Should the Biological Survey start an extermination campaign on autos, or put on a 20-mile speed limit?--H. R.F.

- - - - - - -

What Price Glory: At the outset, permit me to say that the above heading has nothing to do with the subject of this effort - it being taken merely to intrigue the reader's interest.

The British Meteorological Department has issued a warning that the year 1925 will be the driest the universe has experienced this century, based upon a new discovery which the Department experts have made. They claim that a close connection exists between rainfall and the frequency of solar prominences. The latter are explained to be tongues of flaming gas that dart out from the sun's surface, sometimes to a height of 250,000 miles and at a speed of more than 150 miles an hour.

Experts have spent three years studying the relation of this phenomenon with the fall of rain and have learned that the interval between the dates when these giant fireworks are most active has grown progressively shorter during the last half century, while the periodicity of wet years in England has shown a corresponding change. The mathematical curves indicate a relationship that is too definite to be overlooked. They claim that if any faith can be placed in the constancy of the solar prominence of the sun, the year 1925 should be a dry one for England and a droughty one for the rest of the world.

The year 1924 was bad enough from the forester's viewpoint, and if 1925 is to be worse it behooves each and every man in the Service to look to his lines of defense.--J.W.T.

DISTRICT 3 - SOUTHWESTERN DISTRICT

Antelopes Increasing in Southern New Mexico: According to Deputy Game Warden W. S. Soule of Silver City, New Mexico, who has just made a report to the State Game Department, the antelope herds of southern New Mexico are increasing in size. Scarcity of watering places, the game warden says, has broken up the main herds into small groups that are ranging in widely separated regions, but fawns are observed in the various herds at the average ratio of one fawn to about three old ones. This is said to be a decided increase over the past few years.

- - - - - - -

Sudden Service: The Forest Service has chafed at times under delays in getting service of papers by United States Marshals. Here is a case, however, that so far as D-3 knows, is a record beater. It shows a burst of speed that offers a challenge to be equaled. Late one afternoon the United States Marshal at Santa Fe was given Complaint and Summons to serve involving a suit which was being filed for the recovery of grazing fees. Service was duly made upon defendant fifty miles northeast of Espanola, seventy-five or eighty miles from Santa Fe, the following day, as shown by the Marshal's return.

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Elk Drive: An elk drive was recently staged on the [illegible] division of the [illegible] Forest. S. B. Locke of the District Office was present, representing the Forest Service, together with the local Rangers on the ground. As an educational matter the elk drive was a huge success - as a drive it was pretty much of a failure. It was planned to gather the elk, starting near the southwest corner of the Nebo division and herd them northward above the fenced fields along the Forest boundary to the vicinity of Santaquin, thence eastward across Spanish Fork Canyon into the main Uinta Forest. The drive never even got started. The elk were located in the mountains and drivers on foot and horseback went in on the west slopes of Mt. Nebo and started them westward down the ridges, while others were stationed below to turn them north. The first drivers frightened them a little and they came down out of the mountains pretty fast. When they found other drivers at the foot of the mountain waiting to turn them they became thoroughly frightened. It was expected that under the circumstances they would try to get back into the rough country and mountains where they were at home, but instead many of them headed for the open and tore through fields and fences, through farm yards and even through the main highway in the town of Mona. Two animals, a cow and a buck, were run down by horses until exhausted and were taken by truck to Springville. The buck which had injured itself in a fence died and the cow appears to be in quite a precarious condition. At least three animals headed westward, crossing through farms, roads, and the railroad and finally reached the mountains on the other side of the valley. It proved utterly impossible to pull off any controlled driving of the animals.

- - - - - - -

Personnel Changes: Following the transfer of Mr. R. D. Garver from the District Office to the Madison Laboratory, a large string of promotions has gone into effect as follows:

Supervisor Dana Parkinson of the Wasatch Forest will take Garver's position as Assistant in Grazing, effective March 16. Supervisor E. C. Shepard of the Boise will move to the Wasatch to take Parkinson's position April 1. Supervisor G. B. Mains of the Payette Forest will move to the Boise to fill the vacancy there the same date. Supervisor Rice of the Weiser will move to Mains' old position and Supervisor Raphael of the Uinta will take the position at Weiser. All these changes are effective April 1. On May 1, Supervisor DeMoisy of the Ashley will move to Provo to take charge of the Uinta Forest, while Deputy Supervisor Nord of the Wyoming Forest will assume the supervisorship of the Ashley Forest May 16.

DISTRICT 5 - CALIFORNIA DISTRICT

"Old-Timers": The following statistics regarding length of service of men in the D-5 organization were obtained at the recent District meeting at Fort Miley, San Francisco. Figures for 173 men, including Supervisors, Rangers and technical men, indicated an average period of service of 10.37 years. The average service period of the 17 Supervisors who were present at the meeting was exactly 17 years.

The average period of service of the District Forester and the Chiefs of Office who attended the meeting was 18 years and 7 months. Field men who have served better than 20 years are indicated in the following table:

Name	Forest	Years
Lewis	Stanislaus	27
Mainwaring	Sierra	25
*Reyes	Santa Barbara	24½
Bigelow	Tahoe	22-2/3
Cecil	Angeles	22
Joken	"	22
Switzer	"	22
**Maule	Mono	22
Durbin	Lassen	21½
Searcy	Cleveland	21

*Continuously on same ranger district.

**Includes 4 years in Philippine Forest Service.

The above figures tend to bring out the point that there must be a more cogent reason than the perquisites of the job for staying with the Forest Service.--F.B.R.

DISTRICT 6 - NORTH PACIFIC DISTRICT

Furniture: The Office of Products has recently completed a report dealing with the furniture industry of Oregon and Washington. This industry is becoming one of the important secondary wood-using industries of this region. The data contained in the report are based on information secured from 54 factories.

In 1923 the industry consumed 20,323,000 board feet of wood valued at $636,000.00. The total value of the finished product was estimated to be $9,500,000.00. Of the total wood consumption 97 per cent, or 19,727,000 feet, was from native grown species. The remaining 3 per cent was eastern and foreign hardwoods. Of the total amount consumed, red alder composed nearly 48 per cent, Douglas fir 31 per cent, and broadleaf maple 8 per cent. The industry also consumed about 8,500,000 square feet of veneer, 30 per cent of which was produced from native hardwoods. Eastern hardwood veneer represented 53 per cent of the total, and that from foreign wood 17 per cent.

* * *

DISTRICT 7 - EASTERN DISTRICT

Lady Lookout on Natural Bridge: Mrs. Eva Kite of Stuarts Draft, Virginia, has recently been placed in charge of the Bald Mountain lookout on the Natural Bridge Forest, succeeding Lookout W. A. Carter who gave up the position on account of the death of his father.

Mrs. Kite has lived in or near the Forest for a number of years, and, while she has never had experience as a lookout, she has all the requisites necessary and is fast developing into an efficient lookout. She is intelligent, brave, alert, and active enough to climb the 40-foot tower to her "sky parlor." Mrs. Kite lives in a comfortable cabin near the base of the tower, with her next-door neighbor only three miles distant. Her only companions are a 12-year old girl and a shepherd dog. She is very much interested in her work and seems to be perfectly satisfied to spend 5 months of every 12 at the lookout station.

The indications are that this lookout point will not suffer from lack of inspections.

* * *

Grouse for the Wichita: The Wichita National Forest and Game Preserve has recently received a shipment of 30 sharp-tail grouse from one of the Nebraska Forests, and efforts are being made to secure prairie chickens from the State Game Department at Oklahoma City.

Grain is being planted within the Forest boundary so as to induce the grouse to remain in a protected area until the Forest is fully stocked. Doubtless in a few years they will increase to such an extent that they will wander out of the Forest and afford splendid shooting in a limited way. Since there is never an open season on the Forest a refuge will always be provided where the birds may have their young unmolested.

* * *

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 15. Washington, D. C. April 6, 1925.

REFORESTATION, A NATIONAL PROBLEM

Excerpts from an address by Associate Forester Sherman before
the St. Louis Lumber Convention, St. Louis, Mo.

As a nation we inherited the richest and most easily worked forests on the globe as the free gift of Nature. There would be no such thing as a national problem of reforestation to-day had we used our forests with ordinary precautions in the past. Reforestation is to-day a national necessity because for generations deforestation has been a national custom.

Short and sad is the history of our nation's forests. Our virgin forest area of 822 million acres has been reduced to about 138 million acres. To supplement this we have about 250 million acres of culled and cut-over lands and 81 million acres of lands once forested but now so severely cut and burned as to be an unproductive waste. When you correlate these figures with the fact that each year we consume four and one-third as much timber as our forests grow, you have established the inevitability of a primary national economic disaster unless we change our ways,- the approaching shortage of a raw material more essential to progress than either coal or steel and almost as essential to human life and development as water, light and air.

"But," you say, "isn't the Government doing something about this forest business? Haven't we Government forests, or wood substitutes, wood preservatives, or something to take care of our future needs?"

Yes, we have Government forests; but they are largely the remnants of our looted public domain, tag ends so inferior and despised that twenty years ago they were considered beneath the notice of any really competent timber thief. We have such forests to-day because Theodore Roosevelt and Gifford Pinchot and a few other enthusiasts got busy about twenty years ago and put them into so-called "forest reserves,"- now National Forests.

In our National Forests we have a total area of nearly 158 million acres. Under fire protection the old trees have been preserved from destruction, the young trees are coming on, and the blank spaces are seeding up. Business on our Government forests is developing rapidly. For the year ending June 30, 1906 - the first full [illegible] Forest administration under the Agricultural Department - the receipts for timber actually cut and removed from our Government forests amounted to a total of only $242,668.23. For the year ending June 30, 1924, the total was $3,036,395.75, an increase of 1151 per cent in eighteen years. Even at that we cut only slightly over a billion feet, which was only about one-seventh of our annual growth. I am afraid that the next eighteen-year period may show even a greater percentage in the value of timber cut than the past. I say "afraid" for I am apprehensive of what such conditions may mean in the way of unfavorable reaction upon our national well-being. The Government is in the rather peculiar position of raising for the market a commodity which it hopes will always be cheap and abundant.

The National Forests, great and productive as they are, can produce only a small part of the timber required by this country. They are large and will furnish us a permanent annual cutting budget of seven billion feet of timber, which is some lumber pile. On the other hand, we must not forget this is a "whaling big" country and getting bigger every minute. We must reckon with the consuming power of 2,000,000 more citizens every year to the limit of our economic resources.

It is hard for the human mind ordinarily to realize the magnitude of our problem. About twenty years ago I was talking with a friend on the streets of Missoula, Montana, about this very problem of the inadequacy of our nation's timber supply, when a bystander interrupted me, saying, "Do you mean to tell me that you think this country will ever have a shortage of timber?" My answer was, "I am very much afraid of it, sir." To which he replied, "Puh! That shows how little you know about it; why, there's an inexhaustible supply up the Bitterroot." Now I had been up the said Bitterroot and knew that 1½ billion feet was a liberal estimate of its timber resources. Inexhaustible? Folly; less than half enough to last Uncle Sam a single month!

Sometimes the bogey is raised of removal of vast areas of land from the tax rolls. It does not work out that way. Of the total forest area in Missouri I cannot conceive of the Federal Government ever caring to purchase to exceed five per cent. Probably two per cent would be nearer to our ideal. And remember also that the Federal Government does not wish to undertake this task if Missouri is ready, willing and able to undertake it herself.

The Federal Government is ready and willing to extend your State the helping hand by cooperating with you in protecting your forests from destruction by fire. It is needless for me to dwell upon fire as a menace both to standing timber as well as to the reforestation of the area after the virgin crop has been removed. For the past fourteen years the Forest Service has been working along this line and now has cooperative agreements with twenty-nine States. The Government's fire cooperation fund for the coming fiscal year is $660,000. I regret to say not one cent of this money can be spent in this State, although urgently needed here and you help pay the bill. Why? Because the law provides that to be eligible for cooperation a State must provide some system for fighting and preventing forest fires. I would be delighted if Missouri should now come forward as the thirtieth State to make a start at outlawing forest fires and cooperate with the Federal Government in making your woods safe for growing trees.

I am not here to advocate any particular bill or law. What you should do I shall leave entirely for you to decide. I have but one word of advice to give to those of you who reside in this State and that is that your legislature provide for employing a qualified forester to make a special study of your special case. As I see it, the plain facts are that Missouri is suffering from an economic ailment - suffering from it to the tune of eight million dollars a year whether she feels it or not - and I am advising you to employ a doctor. If you get one get a good one and then follow his advice. You will have to pay a good man a good salary, but in the long run he should be worth millions of dollars to the State. If he is a good forester he will also be a good conservationist, just as is every good farmer or stockraiser, engineer, or other man who makes the best use of either resources or materials placed at his disposal. The much maligned conservationist has been accused of asking us to save lumber for posterity instead of using it ourselves. The picture is untrue. The conservationist wishes us to cut down the ripened tree and use it; but he asks us not to cut down more trees than we need, and not to leave half the tree in the woods because there are a few knots in the top log. He asks us also not to let fires run unhindered through the forest, for they destroy the young trees which would form forests for the generations of the future. They are the first beginnings of our children's homes. He asks that we who inherited a land filled with giant trees ready for the ax shall remember that wood will also be needed by our children and their children even unto the end of time; that as we obtain our wood from trees so must they; that unless we wish our race to end like a stream in the sands of the desert we must see to it that those who follow us may find also a land whereon trees cast their shade at the feet of man and all things are ordered obedient to his needs. He asks that we in our day and generation shall observe the Golden Rule and do by those who are to come after us even as we would be done by. To the extent that we, as Americans, in deed and spirit live up to this injunction, we shall prove ourselves worthy of the great sacrifices of our forefathers. We shall also prove ourselves worthy of the love of our descendants because through our forethought we make it possible for them in prosperity to inherit this land forever.

MORE ABOUT SCENIC STRIPS

By H. L. Plumb, Deschutes

We believe that scenic strips along certain main roads or recreation areas are necessary. But just what is necessary for a scenic strip anyhow? Is it necessary to leave all the trees? Some are certain to be windthrown, others will be killed by insects and disease, or die of old age and stand there as skeletons, reminding us that they have served no useful purpose, and remain a menace to life as long as they are standing. Wouldn't it be better if the old mature trees were removed, leaving the young thrifty trees? They will soon take on a new lease of life and fill up the intervening spaces. Will the recreationist approve of the waste of timber which it has taken two or three hundred years to produce? The business man and the lumberman will not, and we are not so sure about the recreationist. True there are small areas that should be left "as is," but they should be carefully selected, and should form only a very insignificant part of the whole area.

We have a scenic strip near the Deschutes which we agreed to include in a land exchange. It is mature yellow pine and is six hundred feet wide. It is fine to drive through on a hot summer day, but it does accentuate the devastation on the logged-off land surrounding it. Several trees have already fallen and many more will fall as the years pass. The only use that can be made of these trees is for fuel. Wouldn't it have been better to leave a wider strip cut under a light selection system at the same or less cost, making use of the veterans? We think so now.

There is another case of a scenic strip, where the logging company took the matter into their own hands, a little farther along this same road. They employed a private forester to mark the trees to be left on a strip four hundred feet on each side of the road. The shorter, thrifty trees were left, making nearly as many as we would leave on a timber sale. The strip looks rather rough, as the brush has not been piled, but aside from that the strip looks good and it will improve when the accentuated growth starts.

Hard-headed local business men, who advocated the saving of a scenic strip along the Dalles-California Highway, have already remarked that the old mature trees should have been cut, which brings us to the point that we, as foresters, cannot be swayed too much by the enthusiast. In the end, sound economic principles will prevail. The subject is worth a good deal of thought. We have the lumbermen, the counties, and the business men to deal with, as well as the nature lovers, and we must be sure of our ground.

* * *

WASHINGTON NOTES

New Inspector in Operation: Effective May 11, Mr. Kircher of District 3 will be transferred to Washington as successor to Major Kelley as Inspector in Operation.

Mr. Kircher has been a member of the Forest Service for the past 16 years. He was Supervisor of the Santa Fe for several years and since July, 1921, has been in charge of Public Relations and Operation in D-3.

His successor has not yet been chosen.

- - - - - - -

Mr. H. N. Wheeler left for a lecture tour through Connecticut and Vermont in cooperation with the State Foresters of these States. He will return to Washington about May 5.

- - - - - - -

Mr. W. R. Mattoon has returned to Washington from an extended trip through South Carolina, Georgia, and Mississippi. At Columbia, South Carolina, he attended the session of the State legislature, which was addressed by Senator Ransdell of Louisiana on forestry conditions in the South, particularly in his own State. The Senator made a very strong plea and impression on the legislature. This meeting had been arranged by the South Carolina Forestry Association.

Another interesting phase of his trip was the field demonstration meeting on the forestry tract of the Agricultural Experiment Station at Summerville, South Carolina. For 12 years the Forest Service has been cooperating with the State in experiments in natural reforestation by protection and artificial reforestation by sowing pine seeds of various kinds. This was arranged by Mr. Mattoon and Dr. Austin Cary, in cooperation with Forestry Specialist Tryon of South Carolina, and was the first large field forestry meeting of its kind in the Southeastern States.

Mr. Mattoon spent forty days in Mississippi cooperating with the Extension Service of the State Agricultural College and gave 16 illustrated lectures in community schools and before Kiwanis and Rotary clubs. He also examined a tract of 340 acres in the northern part of the State belonging to the Boy Scouts of Memphis, which they are developing as a permanent summer camp. Forestry is being practiced on this tract.

- - - - - - -

DISTRICT 1 - NORTHERN DISTRICT

Forestry Bill Passes: Idaho has at last joined the ranks of States that have up-to-date forestry laws. After passing the House unanimously, the bill was the subject of a bitter fight in the Senate, and its outcome was in doubt until the final vote, opposition coming from a good many of the lumbermen and from representatives of small timberland owners.

The outstanding provisions of the bill are the creation of the office of State Forester, the establishing of a State Forestry Board, compulsory patrol, and regulation of slash disposal, at the hands of the board. The bill carried a special appropriation of $10,000 for placing the law in operation.

* * *

Group Meetings: Three group meetings of Supervisors were held during March. The first was at Hunters Hot Springs and was attended by Supervisors from the following Forests: Absaroka, Beartooth, Beaverhead, Custer, Deerlodge, Gallatin, Helena, Jefferson, and Madison. The second meeting was held at Missoula with Supervisors from the Bitterroot, Blackfeet, Cabinet, Flathead, Kootenai, Lewis and Clark, Lolo, and Missoula. The third was at Spokane and was attended by Supervisors of the Idaho Forests only, namely, the Clearwater, Coeur d'Alene, Kaniksu, Nezperce, Pend Oreille, St. Joe, and Selway.

* * *

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Fire Season Opens in D-2: To emphasize a feeling that the fire season is very likely to open unusually early in District 2, we know of two fires which occurred not far from the boundaries of the Pike National Forest on Sunday, March 22; and on March 26, received a telegram from Supervisor Duthie that a Class C fire had been brought under control. Word from the Michigan indicates that Supervisor Schrack and his Rangers will not be able to attend the joint meeting at Cass Lake because the fire situation is keeping the men anxious there.

Apparently there is a lack of precipitation in all States in the District, and if this is not offset by considerable rain during the summer months it seems probable we may be put to a harder test than in 1934, which was the driest season of record in 37 years.

The dry situation is exciting interest on the part of summer home owners between Denver and the Pike National Forest, who are planning to hold a mass meeting very shortly, when plans will be laid for a definite fire organization for the various communities affected.

* * *

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Fire Season Opens in D-2: To emphasize a feeling that the fire season is very likely to open unusually early in District 2, we knew of two fires which occurred not far from the boundaries of the Pike National Forest on Sunday, March 22; and on March 26, received a telegram from Supervisor Duthie that a Class C fire had been brought under control. Word from the Michigan indicates that Supervisor Schreck and his Rangers will not be able to attend the joint meeting at Cass Lake because the fire situation is keeping the men anxious there.

Apparently there is a lack of precipitation in all States in the District, and if this is not offset by considerable rain during the summer months it seems probable we may be put to a harder test than in 1924, which was the driest season of record in 37 years.

The dry situation is exciting interest on the part of summer home owners between Denver and the Pike National Forest, who are planning to hold a mass meeting very shortly, when plans will be laid for a definite fire organization for the various communities affected.

DISTRICT 3 - SOUTHWESTERN DISTRICT

Annual Meeting of the Scientific Society: It has been the custom in District 3 ever since Supervisors' meetings have been in vogue to spend an evening around the dinner table, where there is opportunity to throw aside the grind and restraint of hard work and really get acquainted with the fellow who sits in the next chair. These gatherings have been called meetings of the Scientific Society and, besides the dinner, the programs have included papers, sometimes sublimely ridiculous, on subjects the very seriousness of which has been a close approach to humor. This year's meeting of the society took place at the Franciscan Hotel and was attended by all of the visiting members of the fire conference and a majority of the D. O. men. It was a time of unusually good fellowship. The dinner was good and the papers kept the meeting in an uproar of laughter. Mr. Randles gave one on "Fire, Its Origin, History and Suppression," in which he cited the historian Wells as authority for "Fire" and "Speech" being two of the epoch-making developments of the human race. Fires, Mr. Randles pointed out, are subject to control, but the tendency to tell about them still runs unchecked. Mr. Mullen read a scenario written by Mr. Lang, in which the discovery, travel to, and suppression of fires in 1908 were contrasted with the same activities in June, 1925. The Fiscal Agent, who was introduced by the chairman as Professor Albert Paycheck Morris, analysed the expense account submitted by King Solomon upon return from his visit to the Queen of Sheba, which, he claimed, had been deciphered from a tablet recently found beneath the ruins of the walls of Jerusalem. There was another paper by Randles entitled, "The Mystery, or Why Water Runs Down Hill." Paul Bunyan, according to this deliverance, is responsible for erosion because he failed to repeal the law of gravitation. And so the entertainment ran until nine o'clock. It was one of the best Scientific Society meetings yet held.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Heading for a Goal: Some years ago on one of the most intensively used cattle districts in Utah there were permitted about 4200 head of cattle. In the judgment of the Forest officers the district was capable of carrying but 3000 head. Permits were small with an intensive demand from beginners, and it was a problem how to get down to carrying capacity. A goal of 3000 head was set. Changes were made in the personnel, but subsequent officers continued to head toward the same goal. Reconnaissance came along and estimated the carrying capacity at 2700 head. For the season of 1925, the permitted number is down to 2700. This has been accomplished with but very little disturbance of the interests of established permittees by constantly heading for a definite end.

- - - - - - -

The Tribune Comments: The SALT LAKE TRIBUNE recently ran an editorial on the article in the "Outlook" by Mr. Grey and the reply by Colonel Greeley. The Tribune believes that the Forest Service is doing its best in the administration of resources placed under its control, although there may be objections to certain practices, and although the Forest Service has many shortcomings. It states:

> "There certainly can be no objection to developing and exploiting the recreational phases of the Service. But to say the Service is forgetting it was created to protect timber, the watersheds of cities and farming districts, and to administer summer grazing, and has gone off chasing a new dream, hardly is justified by facts."

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

San Joaquin Control Project: A report has been received from Entomologist Miller regarding the results of the San Joaquin Control Project which has been under way on the Sierra Forest since 1920. The principal object of this work has been to determine whether light endemic infestations could be profitably controlled and whether epidemic infestations could be forestalled by such control. The conclusion has been reached that control of endemic infestations where losses are less than one-half of one per cent of the stand annually is not feasible, since the cost of control work is not warranted by the benefits secured. A comparison of the results of this project with the results on projects covering relatively large areas, such as the Antelope and Southern Oregon-Northern California projects, where control work was directed against losses amounting to approximately 1 per cent of the stand annually, shows that a much more effective protection may be secured on the latter areas. In general, it may be stated that control work is a paying proposition in connection with epidemic infestations involving a loss of 1 per cent or more of the stand annually. - T.D.W.

- - - - - - -

Strange Sights Seen on Field Trips:

A sign reading "Charter Oak" on a eucalyptus tree.
A Chinaman with long white whiskers.
A dairy with a radio.
An I. W. W. at work.
A Ranger with riding breeches that didn't bag at the knees.
A Washington officer who knew where North was.
A Department of Agriculture "Yearbook" for sale at 5¢.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Timber Sale: A Snoqualmie recent sale of approximately 40 million feet of timber to the firm of Scott & Howe carries with it the price of $3.55 for Douglas fir, which is believed to be the highest price paid for Government timber on this district to date. The timber is in the Smay Creek watershed - tributary of the Green River at Nagrom, Washington. The plant of the Morgan Lumber Company at Nagrom has been taken over by Scott & Howe of Tacoma and will be operated by them.

- - - - - - -

Paid with a Smile: A fire occurred August 11, 1924, on the Wenatchee and was supposed to have been started through the careless smoking of W. Stanley Coffin's herder, though the evidence was not sufficient to convict in a criminal action. The matter was taken up with Mr. Coffin, and a request made for reimbursement of the Forest Service expenses. Mr. Coffin's reply was:

"I acknowledge your nice letter notifying me of the expense in fighting fire on our range. Am sending draft as instructed for $334.65. I am certainly sorry this fire was started by our men and will see that neither of them goes on the Forest again. As you know, we wish to cooperate in every way in the suppression of fires and to assist the Forest Service in all other matters pertaining to the Service."

DISTRICT 7 - EASTERN DISTRICT

Game Census: According to the last annual game census, the National Forests of District 7 provided a home for 13 antelope, 170 buffalo, 970 bear, 7,565 deer, 400 elk, 150 wolves, 100 coyotes, 3,520 wildcats, 4,410 fox, 200 marten, 1,740 mink, 4,000 ermine, 40 otter, 600 fisher, 1,610 opossum, 7,210 raccoon, 5,000 skunk.

The squirrel population of D-7 Forests must be very great, because 6,500 are reported as having been killed by hunters last year.

It is apparent that wild turkey are rapidly increasing in this district as a result of prevention and general suppression of forest fires. District 7 now has 4 game refuges in 4 different States. It has authority to create game refuges in 2 other States, which has not been done on account of lack of money and men. District 7 will also be charged with the responsibility of protecting the game on a number of the ungarrisoned military reservations which may be created as National Forests.

- - - - - - - -

Fine Publicity: As a feature of his American Forest Week campaign, Supervisor M. A. Mattoon of the Cherokee has arranged for free use of the billboard space on the front of all the electric street cars of the Knoxville Power and Light Company for the entire week. Under special authority of the Joint Committee on Printing, specially designed posters were prepared. In the last year or two this form of advertising has attracted a great deal of public attention and this effort of the Cherokee is bound to be productive of excellent results.

Service Bulletin
U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 16.   Washington, D. C.   April 13, 1925.

WORKING PLANS AND PUBLIC RELATIONS

By J. Kittredge, Jr.,
Lake States Forest Experiment Station

An interesting and promising possibility of effective public relations work was brought out in a recent discussion, by W. L. Barker and members of the Experiment Station, of the preliminary draft of a working plan for a working circle on the Superior National Forest. I understand Supervisor Richey has already used the plan as a basis for a talk to local organizations. Fine! More power to him and to others who do likewise! Here is another suggestion from a little different angle.

The working circle in question includes chiefly National Forest lands, but there are also considerable areas of State and privately-owned lands. The plan provides for sustained yield, silviculture, slash disposal, and fire protection for the National Forest lands. It suggests that the State will either make exchanges with the Government to consolidate blocks of both Government and State lands in this particular working circle, or manage its lands under the same working plan. For the private holdings it suggests that they should be acquired by purchase and thereby become part of the National Forest. Looking at it solely from the National Forest administration point of view, that is, unquestionably, a desirable solution. Is it, however, the most desirable one for the development of forestry in the region?

The Forest Service has recognized that forestry in this country must be a function of private owners as well as States and Government, if our 470 million acres of forest lands are to be made and kept productive. Much thought and energy have been expended to encourage timberland owners to take the first steps in forestry. We have sold fire protection, we have sold a little reforestation, and we have sold less silviculture and sustained-yield management. A working plan contains them all with due emphasis on the silviculture and management. Does not the preparation and execution of a working plan for National Forest lands adjacent to or surrounding private lands offer one of the best possible opportunities to encourage and demonstrate forestry as a whole to the owners of those private lands? Why not take this working plan, or any working plan, or a brief summary of its essential features and go to each of the owners of those lands and tell him how the adjacent Government lands are to be managed, and how the Government expects to benefit from the operation of the plan. Tell him how the same silviculture and management can be applied with equal benefit to his land, thereby enlisting his selfish, personal interest, which is usually a much stronger motive force than any general interest in forestry which he may have. The chances are that he will, perhaps immediately, and perhaps only after a few years, see the advantages of handling his lands as a part of the general plan for the working circle, and will adopt the provisions of the plan for his own lands. It might be worked out under an arrangement by which the Forest Service would carry out the provisions of the plan on these private lands under a cooperative agreement and the owner would pay the costs.

However that might be, such an arrangement for the private lands included in any National Forest working circle offers an opportunity to sell forestry, including not only protection but also silviculture and regulation, with timberland owners, which may easily be more far-reaching in its effects than would the acquisition of those private lands by purchase.

-------#-------

AN EXAMPLE OF THE BEGINNINGS OF FORESTRY IN THE SOUTH

Everyone who has worked in the Southern Pine region knows that it has been the custom for years to burn over the "piney woods" as often as they would burn and that this habit has become deeply rooted with the local inhabitants. A recent letter from Dr. Austin Cary indicates at once the difficulties in reversing this trend and that it is possible to do it. He writes with reference to the efforts of an Alabama company:

"Last year the Lumber Co. bought space in the local papers and kept it full of propaganda on fire. They also had men in the field. The result of that first season's effort as near as they know was that 25% of their cut-over land remained unburnt.

"This season they put on a field force in September and have run during a large part of the season a force of about 15 men in 5 autos. Burning strips along roads and elsewhere, with actual patrol, have been the features of the work. The season is still on and will be for about a month yet. To date they think 30% of the cut-over area may have been burnt. They have a really forceful man, acquainted with the residents, in charge. He says cooperation is gaining, that there is only one corner of the property, about 4 x 6 miles, where the people are really acting mean and persisting in it. Legal pressure is being used in a few cases.

"Last fall there was a very heavy mast on both slash and longleaf pine, as heavy for the latter as most any remembered by the local people. The new seeding shows up best where the territory was burnt off, as on fire lines and in some other places, in September or early October. It is wonderful. I counted up to 75 seedlings per square yard, 63 on one square foot. Slash pines of last fall's seeding, also of a year ago, are to be seen rather widely.

"This shows what a business concern will do when it gets a matter straight in mind. And they won't quit for any insufficient reason, will on the other hand put on more pressure. The cost figures of course, but on the other hand they know now what is at stake in the business."--E.E.C.

--------#-------

FOREST ROAD FUNDS

By G. H. Lautz, Washington

With the passage of the Agricultural Appropriation Bill, Congress made available $4,000,000 for expenditure for the construction of Forest roads and trails. This represents the remainder of the amount authorized for appropriation in 1922, practically all of which has been obligated to various road projects. In addition the Second Deficiency Bill passed on March 3 gives the Secretary of Agriculture authority to apportion to the National Forest States, and obligate by the approval of projects an additional $7,500,000. This, however, does not provide for an appropriation and therefore cannot be expended until such an appropriation is made by Congress. The apportionment to the various States from these two amounts as approved by the Secretary is as follows:

	APPORTIONMENT OF			
	$4,000,000 Appropriated		$7,500,000 Authorized	
State	Forest Hwy.	Forest Dev.	Forest Hwy.	Forest Dev.
Alabama	1,350	1,811	3,259	6,884
Alaska	231,755	14,948	463,843	15,293
Arizona	139,183	80,702	278,684	129,493
Arkansas	16,425	22,049	33,825	50,958
California	342,544	202,839	683,034	409,132
Colorado	169,192	100,070	336,974	154,674
Florida	4,940	2,619	9,854	18,113
Georgia	3,215	6,170	10,746	16,331
Idaho	256,574	343,818	511,777	620,400
Maine	634	1,415	1,266	466
Michigan	1,177	1,969	2,350	18,599
Minnesota	15,296	12,786	30,523	62,746
Montana	203,137	236,299	405,094	299,459
Nebraska	2,571	3,189	5,128	1,071
Nevada	48,728	7,993	97,249	6,364
New Hampshire	8,032	7,450	16,047	15,481
New Mexico	106,639	55,309	212,453	73,062
North Carolina	6,729	14,465	13,455	29,373
Oklahoma	1,300	2,762	2,381	3,018
Oregon	291,274	257,205	581,745	457,729
Pennsylvania	1,184	5,371	3,801	10,069
Porto Rico	334	1,595	666	153
South Carolina	377	2,749	1,616	5,622
South Dakota	17,688	6,533	35,280	26,368
Tennessee	4,817	7,258	9,528	19,454
Utah	86,721	36,675	173,243	54,984
Virginia	6,939	14,385	15,371	29,481
Washington	166,164	222,537	330,675	357,122
West Virginia	2,344	4,539	5,033	13,466
Wyoming	112,737	72,490	225,100	94,635
Total	2,250,000	1,750,000	4,500,000	3,000,000

WASHINGTON NOTES

"Let's Know Some Trees," the interesting booklet by Charles H. Shinn giving brief descriptions of the principal California trees, has just been issued.

- - - - - - - -

Washington Pens are Busy: Three articles by Colonel Greeley have appeared in recent publications: "The Business of Growing Trees," in American Lumberman, March 28; "The Forest Service is Sticking to Its Job," Outlook, March 4; and "The United States as a Market for Tropical Forest Products," Pan American Union Bulletin for April.

Another article by Will C. Barnes, "Oregon and Idaho in Winter," appeared in the March 19 issue of the Breeder's Gazette.

R. V. Reynolds has an article in the American Rifleman for March 15. It is entitled "The Human Machine Rest."

Tom Gill has written a story on his recent trip to Mexico. This appears in the Yale Forest School News, April 15, under the title "On The Trail of Mahogany."

"Where Your Treasure Lies" by T. W. Norcross appeared in Outdoor America for March.

-------#-------

FOREST PRODUCTS LABORATORY

Interesting Developments in Experimental Coated Seasoning: Preliminary experiments on the seasoning of wood entirely coated with materials similar to ordinary end coatings have produced interesting results. It was expected that this method of seasoning would produce stock very uniform in moisture content and quite free from drying stresses, but it was assumed that the drying rate would be very slow. It appears now, however, that the slowing up of the drying is not nearly as great as had been anticipated. It also has been brought out that wood thus coated can be exposed to very high temperatures for considerable periods without apparent injury. This method of drying would seem to apply particularly to thick stock of refractory species.

- - - - - - - -

Fixation of Redwood Extract: In the cooperative work with The Redwood Association on the removal or fixation of the redwood extract it has been found that several inorganic salts tend to form an insoluble compound with the coloring matter in redwood and therefore might be used to fix the extract in place and prevent the difficulties caused by its leaching. Stannous chloride is apparently the best salt for this purpose and some preliminary painting tests indicate that it is difficult to obtain any discoloration of white paint on redwood which has been treated with stannous chloride

DISTRICT 1 - NORTHERN DISTRICT

Special Use Permits: On December 31, 1924, 2328 special use permits were in effect in D-1. Of these the Forests of Montana contained 1031 free and 897 charge permits, and the Forests in Idaho contained 243 free and 157 charge permits.

The principal classes for the District as a whole were pasture permits 415, a decrease of 35 during the year. Residence permits came next, with a total of 411, an increase of 31 over the number in effect December 31, 1923. Telephone connection and telephone line permits totaled 370. Water transmission permits totaled 232, and reservoirs 160. There were 168 drift fence permits, and 111 permits for cabins. Agriculture and cultivation totaled 87, and sawmills 59.

- - - - - - -

Tempora Mutantur: March 5, 1925 - Extract from the Coeur d'Alene Evening Press:

"Governor Charles C. Moore at noon today signed the two most constructive measures passed by the present legislature, House Bill 57, The Forestry Act, and Senate Bill 16, the Banking Code."

March 5, 1910 - Newspaper Item:

"Washington, D. C. The Forestry reservation question was discussed and the Forestry Service was criticized by Senator Heyburn of Idaho.-- "-- C.K.McH.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Rabbit Damage in Minnesota: Mention has been made previously in these columns of the damage to natural reproduction and to plantations, which has been reported generally from the two National Forests of Minnesota as well as in the State Forests. During the past summer it was noticed that large numbers of rabbits were dying. This was attributed to the attack of ticks and to some parasitic disease. It is the opinion of people in that region who have made some observations on rabbits that they increase and decrease in cycles averaging about 7 years each. When they attain their greatest number, damage to seedlings always results, but shortly after this they are attacked by some disease which kills off all but a few.

The matter was taken up with the Biological Survey with the request that the situation be studied so we might be prepared to combat a large increase in the rabbit population in a few years. Mr. Zimmerman of the Biological Survey, who is stationed at the North Dakota Agricultural College, has spent some time at Cass Lake and has established an experimental feeding ground to see if the rabbits could be induced to come to one place to feed. Alfalfa was plentifully supplied underneath brush. This was soon discovered by the rabbits. They visited the feeding place, tramping down the snow to such an extent that it resembled a barnyard.

A bill is now before the Minnesota State Legislature to remove protection from snowshoe rabbits, which is now given by a partial closed season. If this measure passes the legislature, the Game Commissioner states that there will be no objection to poisoning when desired. Mr. Zimmerman's study so far indicates that poisoning can be done quite simply when the occasion arises.

--------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Land Exchange Plan Completed: The District 3 Land Exchange Plan, except for some minor details, has been completed. The plan is assembled in atlas folio form and consists of a quarter inch base map of each Forest, showing the ultimate boundaries and the principal areas desirable for acquisition; a summary and a forest map in colors on the State map; a text discussing the district exchange problem, with several pages devoted to the discussion from the D-3 standpoint; of priorities for acquisition grouped by types, class of ownership, legislative needs necessary to make the exchange effective, and a listing of the forestry resources available for exchange. Further tabulations summarizing the total area desirable for acquisition on each Forest, a list of the land grants, Indian reservations, and other large private holdings, with approximate area and volume of timber on each. The plan also contains a land valuation section compiled chiefly from the records of all reported sales obtainable with the price per acre by classified types of land. It is estimated that there are some 800 or more individual private holdings which are desirable for exchange within the timber type. The completion of the plan gives the first real estimate of the size of the exchange problem. It indicates about 2½ million acres desirable for acquisition in the Southwestern District.

- - - - - - -

Broadcasting Forestry: Through the cooperation of the New Mexico State College a program of 18 talks on all phases of forestry was arranged for broadcasting over station KOB. Five of these have already been broadcast, and judging by the replies received from Forest officers and the report of the State College they are being very widely and well received. The broadcasts are arranged so as to cover the entire range of Forest Service activities and timed to fit the subject to the best advantage. These talks are given each Friday night about 8 p.m.

--------#--------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Reduction in Personnel: For the past three years a consistent effort has been made to improve the administration of the National Forests so that more work could be done at less expense. This attempt has proven surprisingly successful, and at the present time we are carrying on more business than ever before with materially fewer men on the pay roll to handle it. The following tabulation shows the situation for the fiscal year 1923 compared to what it will be for the fiscal year 1926.

	1923	1926
Supervisors	26	26
Deputies	17	17
Clerical	61 Y-long	54 Y-long
	1 3-month	1-4-month
Forest Assistants	6	10
Grazing Assistants	8	7
District Rangers	166	152
Other & Assistant Rangers	21 Y-long	4 Y-long
		2 8-month
		1 7-month
Guards	176 less than 6 months	173 less than 6 months
	6 Six months or more	16 6-months or more

In a nutshell the above table means just this: Between the fiscal years 1923 and 1926 we have increased our force by seven guards and at the same time have reduced it by seven clerks and 20 yearlong rangers. We claim to be living up to the principles laid down by President Coolidge in his economy plan and feel that we have good reason to be proud of this record.

- - - - - - -

Hearings on Public Lands Planned: The Public Lands Committee of the Senate is trying to organize itself for a series of sessions during the summer in the Western States, according to a news item in the Salt Lake Tribune of March 24. This committee, headed by Senator Stanfield of Oregon, intends to hold hearings at various points in the West on the whole public land question. The item states that the trend of opinion indicates that the power of setting grazing fees is likely to be taken from the Secretary of Agriculture following these hearings and thrown directly into the hands of Congress. Under these circumstances, Congress will set fees not only for grazing upon the National Forests but also upon the public domain, which would be put under some form of control as has been repeatedly advocated. The question of turning over the remaining public domain to the States will also be discussed at these hearings, but according to general opinion such a policy has very slight chances of going into effect at the present time, for although the Senate might not prove overwhelmingly opposed to such a policy, the present attitude of the House makes it sure that such legislation could not be passed at the present time. The itinerary of the committee has not been worked out as Senator Stanfield is having some difficulty in organizing a quorum. Hearings are scheduled for Ogden at least.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Waste is on the Run: The Utilization Conference recently held in Washington was not the only evidence of a movement toward the elimination of waste. In 1908 the Great Southern Lumber Company of Louisiana erected a huge burner at a cost of more than $75,000. During its lifetime it consumed $1,500,000 of what was formerly called sawmill waste. On July 4, 1924, this burner was discontinued and its fires will no more light up th sky.

The slogan of this lumber company, which cuts over a million feet a day, is "Avoid All Waste." In connection with their mill they operate not only a modern box and shook factory, but factories turning out broom handles, picture mouldings, and many other small articles down to the point where nothing else of a mechanical trend can be made from the waste. Then it is turned over to a complete and modern paper mill which makes forty tons a day of high grade kraft paper. They are now planning to double this capacity during 1925 and this paper mill will use every scrap of waste wood produced, not only in the mill and factories, but all the wood waste down to the leaves and twigs.—C.L.H.

- - - - - - -

Improving the Sunkist Hours: The following figures indicate the field time of Forest officers in the California District during 1934:

	Average in days
District office field-going men	158
Forest Supervisors	139
Assistant Supervisors	145
Technical men	176
Ranger specialists	164
District Rangers	205

Supervisor Rogers (Plumas), with a total of 179 days in the field, and Supervisor Boulden (Cleveland), with 173 days, lead the Supervisors.

For District Rangers in southern California, Shay with 308 days, Hayden with 303 days, and Moeller with 292 days - all of the Angeles Forest, lead.

For District Rangers in northern California, Solaro of the Shasta had 257 days in the field to his credit, and Wofford and McLeod of the Sierra 254 and 253 days, respectively.

--------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Doc. Hofmann Goes to Europe: Mr. J. V. Hofmann will have charge of a party of about 20 forestry students from the Mont Alto, Pennsylvania, State Forest School, on their annual tour of the forests of Germany, Switzerland, and parts of France. The party sailed from New York on March 28, with Dr. Schenck, formerly director of the Biltmore Forest School, as guide.

Dr. Hofmann was formerly in charge of the Wind River Forest Experiment Station in this District, and will be remembered for his studies in Douglas fir regeneration and relative humidity.

- - - - - - - -

Economy - Real and Fake: "There is economy in the public service that does not show on the books of the Treasury. Bookkeeping deals with dollars expended, not with work done, and unexpended balances may express either money well saved or urgent work left undone. The difficulty

~~is that fiscal~~ accounts tell only part of the story, and the parts untold too often cannot be found in the administrative record. To pass intelligent judgment whether or not the nonexpenditure of public funds is truly economical there must be taken into account more weighty considerations than the obvious dollars and cents alone."—Dr. George Otis Smith.

--------#--------

DISTRICT 7 - EASTERN DISTRICT

New Hampshire Boys Plant Trees: Last May the boys of the junior extensio service of New Hampshire planted 3,000 Scotch pine transplants on White Mountain National Forest land. The transplants were donated by the Brown Company and Ranger Spinney instructed the boys how to plant them. The benefits of this enterprise were twofold: the Government gets the benefit of the planting without material cost and the boys are being taught a valuable lesson in the importance of perpetuating the lumber industry in their section. This year, under the name of the Bartlett Pine Club, the plan will be somewhat modified. Ten of the boys of the club, selecting forest tree planting, will be furnished 250 transplants, each boy being given a plot for his planting. He will clean up the ribes, as a precaution against the blister rust, will care for his planting after it is done, and will do the weeding and thinning as future need and care necessitate. The Society for the Protection of New Hampshire Forests wil donate a prize to be awarded to the boy who gets the best results. The Forest officers are much interested in the project and are giving their active support to it in the hope that these boy clubs will be extended to all of the communities in and surrounding the Forest.

- - - - - - - -

Students Study Forestry: Prof. Karl Woodward, of the forestry school at New Hampshire State College, on November 6 and 7, conducted 7 of his students over typical timber sale areas on the White Mountain Forest. Supervisor Yarnall spent one day with the party explaining the marketing of the timber and the administration of sale areas. Tentative plans for the establishment of a summer camp on this Forest in the near future were made by Prof. Woodward.

--------#--------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. ~~17~~. Washington, D. C. April 20, 1925.

WITH THE FIRE PREVENTION EXPEDITIONARY FORCES

"We have been inclined to attribute our good results in Fire Control on the Allegheny more or less to good fortune. While I am sure that we could have been much less fortunate than we have been, I am coming to believe that our results are effected by just such projects as this." So speaks Supervisor Bishop in transmitting the report of an intensive educational effort recently completed by Forest Ranger R. M. Conarro and State District Forester H. B. Rowland.

"I feel that our motion picture tour has been a success," says Ranger Conarro. "We selected the latter part of February and the first part of March, thinking the roads would be in fair condition, as is usually the case in this section. Our plans called for three schools a day, and an evening show if we happened to be in a town over night. The day the films were received it warmed up and has continued warm ever since. This warm spell melted the snow and softened the roads, making travel very slow and in a few instances impossible. However, we were able to complete about 65% of our program.

"The portable generator we had planned to use arrived three days late, and in the meantime we used the Acme generator which had been sent to us from the Ozark. As our projector light had a rating of 80 volts we found it almost impossible to run our Ford slow enough to avoid developing more than 80 volts. After burning out two bulbs we decided to abandon the Acme. We chanced to know of the Homelite outfit and upon application to the company were given the use of a machine without cost for the duration of the trip. Two days were thus lost upon which we would otherwise have been able to show.

"After the borrowed Homelite generator arrived we loaded some 20 blankets, together with generator and moving picture machine, 2 shovels, 1 pick, and forestry literature into the small Forest Service Ford truck and were prepared to put on a show any time of the day. With this outfit we traveled from one school to another and announced ourselves whenever we arrived. Owing to bad roads we thought it best not to make any definite schedule. We had written to the county superintendents and had letters of introduction to the teachers, also instructions for them to cooperate with us and make it a truly educational period. I expect in some cases we upset the teacher's schedule for the day, but I believe our plan was the right one. The outstanding thing in this method of attack is the surprise we gave both the children and teacher. In several instances it was the first moving picture some of the scholars had ever seen.

"The main object of the project was not to see how many people we could reach but to cover a field which cannot be covered except with the use of a portable generator, that is the rural schools. Although the number who saw the demonstrations was not as great as might have been otherwise possible, we feel that the effort was very much worth while. The project elicited a great deal of favorable comment from the teachers, county superintendents, local newspapers, and progressive citizens. It is believed that with favorable road conditions another trip could be planned which would make possible the showing of the films at twice as many schools. Our short talks before and after the pictures, and at points during the shows, undoubtedly have left constructive impressions upon the children. We often checked up on the impressions after the shows and found that the ideas had got over.

"Upon arriving at a school announcements were made, blankets hung over the windows, the generator set up on the porch, and a few introductory remarks made to the children covering who we were and what the purpose of our visit was. The pictures were then shown with explanations for the benefit of the children who might not be able to read the titles. At the close a short talk was given urging the necessity of forest conservation and particularly the need of care with fire. We took pains to tell the children how they could help in the general scheme. In most instances we showed the Pennsylvania State film, "Forests in Everyday Things" and our "Red Enemy" film. It was found that we could set up and be ready for showing in ten minutes, and after the conclusion of the program in ten minutes more we could be packed up and ready to start for the next school. It took about an hour and a half from the time we arrived at the school until we were ready to leave. The greatest loss of time occurred in getting from one school to another.

"During the campaign 38 shows were given, with a total attendance of 2,431 persons, averaging 64 persons to the show. Besides school groups 8 shows were put on at various clubs and fraternal meetings in Warren and other towns. During the 23 days we had the films, shows were given on 18 days. It was not practicable to show on Saturdays or Sundays. On some days only a single showing was given, on others as many as five. Had the roads been good we could easily have averaged three and possibly four shows to the day. On three different days attempts to negotiate the roads failed utterly and it was necessary that we give up and turn back.

"I wish to express commendation for the very cordial and untiring assistance of State District Forester Rowland in carrying out the project. All the way through it was put on as a combined effort and was not considered as a Forest Service project, rather as a forest educational campaign."

Of more than 500 fires in D-7 this year the Allegheny has had 5.--Ed.

-------#-------

WATCHING DOUGLAS FIR GROW FOR 15 YEARS

By Thornton T. Munger, Pacific Northwest Exp. Sta.

Fifteen years ago in the days of the Section of Silvics of the Office Silviculture I established three Permanent Sample Plots in a fine 54-year-old stand of "second growth" Douglas fir on the Cascade National Forest. Every tree on the three acres was numbered and tagged and measured for diameter and many for height as well. It seemed then that it would take years of patient waiting and suspense before any results would be forthcoming.

But now the plots have undergone three subsequent examinations in 1915, 1920, and 1925, and three interesting chapters in the biography of a typical Douglas fir forest have been written. The bigger trees have grown bigger, the small trees have been suppressed and died. The number of living trees has steadily dwindled, but the volume of those that remained has increased with gratifying speed. There are a number of them two feet in diameter and the best of them are growing over two inches in diameter each decade.

The story of this 69-year-old forest is simply told in the following table: *

	No. of Trees	Ave. Diam.	Total Vol. cu. ft.	Merch. Vol. bd. ft.
In 1910	196	13.7	8,870	37,462
1915	182	14.8	9,812	43,758
1920	155	16.3	10,208	47,900
1925	145	--	11,113	55,341

From 1910 to 1925 these plots grew annually 149 total cu. ft. or 1192

*Average of all these plots on an acreage basis.

merchantable bd. ft. In the last 15 years 51 trees per acre have dropped out, chiefly by suppression. Had there been a market they might have been used in thinnings and so swelled the gross volume growth.

A comparison with similar aged stands in other localities indicates that these plots are not on the best quality of land, but fall in Site II. Next year we can tell what some Site I plots have done in 15 years.

Information like the above based on the actual remeasurement of permanent plots ought to go far in convincing forest owners that there is a profit in growing forest crops in this Douglas fir region.

--------#-------

THAT "NUMBER OF FIRES" OBJECTIVE

By James E. Scott, D-7

Some day - the sooner the better - the Service objective as to "Number of Man-Made Fires" will be as alive in the mind of every Ranger and Supervisor as are our "Acreage Burned" and "Percentage of Class A" objectives today. Of all our National Forests there are just four which can show a successive reduction in the annual "number of man-made fires" over the period of the past four years. Here they are:

	1921	1922	1923	1924
Custer (D-1)	5	3	0	0
Rio Grande (D-2)	4	4	4	3
Gila (D-3)	14	7	6	1
Florida (D-7)	68	60	58	50
Totals	91	74	68	54

Won't it be great when our real "fire Forests" begin to break into such a tabulation as this? Are we in sight of our goal in fire control until they do break in and stay in although the period covered grows steadily longer?

--------#-------

WASHINGTON NOTES

Washington Office Learns About Road Building: At the Family Meeting held April 8, Mr. Norcross gave an illuminating talk on National Forest highways, outlining briefly the important part they play in the development and prosperity of the country and in making available to the public the resources of the Forests. His remarks were supplemented by a number of excellent pictures and graphs illustrating the character and extent of the various types of roads already constructed and projected. We are compelled to add another name to the rapidly growing roster of public speakers that from time to time are being uncovered at our Family Meetings. Mr. Norcross more than lived up to the best traditions of these meetings.--H.I.

- - - - - - - -

Australia Recognizes Need for Forest Planting: Trade Commissioner E. G. Babbitt, Melbourne, Australia, in his report dated February 20, 1925, gives the following account of forest plantations which are being established around Anglesea Victoria.

"It is slowly being recognized in Australia that there is very great necessity for the establishment of softwood reserves. The matter, as is very usual in Australia, has for years received much verbal attention, but very little has so far been done in a practical way. The establishment of 40,000 acres of pine reserves around Anglesea Victoria, which has now been undertaken, is the largest softwood planting yet planned in Victoria, if not in Australia. Parts not suitable for pines are to be planted in wattle, and in some areas natural growths will not be disturbed. The land to be planted, which is now practically a wilderness, will in about thirty years' time be a very valuable forest area. The Victorian Forestry Department holds about 6,000 acres, the rest being held by the Lands Department. It is of interest to know that the director of the Victorian State forest school, Mr. C. E. Carter, went through a course in forestry at an American university. The Victorian Minister of Forests is at present making a tour of the forest areas of the State to secure first-hand knowledge in anticipation of an amending bill being introduced next session."

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Boy Scouts Save Timber: The following is an extract of an item published in the Spokane Daily Chronicle of June 30, 1924:

"Newport, Wash., June 30 - (Special.) - But for the timely assistance of some of the Boy Scouts from the Cowles Scout Camp at Diamond Lake Friday, several thousand acres of timberland might have been destroyed and a great deal of the beautiful scenery around the north shore of the lake would have been left in blackened ruins. A camp fire left by some careless camper started a smoldering fire, which when picked up by the high wind of Friday soon spread to timberlands and would have gotten away from Firewarden Linder but for the timely help of the Scouts, who worked like trained woodsmen.***The boys would take no compensation for their work, declaring that they had simply done their duty."

- - - - - - - -

A New Kind of Stock: The following paragraph was taken from the report on a proposed Administrative Site by a 1910 Ranger:

"The errors not being considered excessive, the survey was closed, containing an area of approximately 21.774807615 acres, about one-fourth being goose pasture and the balance suitable for Rangers and other stock."

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Forestry Legislation: The present legislature in Colorado has passed two important bills dealing with Forestry in this State. One provides for cooperation with the Federal Government under the Clarke-McNary Law and the other bill makes it possible to drive streams containing fish in the State. Considerable difficulty has been met in the past in handling timber sales where the transportation of products required stream driving, because of a blanket restriction in the State. Although the present law requires the approval of the State Fish & Game Commissioner, this will probably be no handicap, since the cooperation of this State office has been freely given in the past. However, as conditions have been, it was illegal for this office even to authorize such activity.

- - - - - - - -

Study Courses: After an investigation by the credit committee of the quality of work being done, the University of Wyoming is offering advance credit for a number of our home study courses. Any Ranger desiring to enter that institution will receive credit for the courses he has taken in the Service.

This not only shows the quality of the work being done, but it is suggestive of the extent of the opportunities offered in the Service. In how many other jobs would you receive a like opportunity? Don't make the mistake of overlooking it or undervaluing it just because it is free.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

1925 Fire Season: With five fires reported from Forests scattered throughout the District occurring prior to March 23, indications are that, unless the spring rains come abundantly in the near future, we are going to have an unusually early fire season. Although these fires have done little damage so far, the fact that they occurred is a matter of considerable concern. In one instance a fire covered 200 acres, principally open land, doing, however, but little damage. These fires are all man-caused and one party has already been apprehended and fined. Every effort is being made to secure convictions in the other cases.

- - - - - - - -

New Mexico Justice of the Peace Tries a New Procedure: A trespasser on the Santa Fe Forest was hailed before the local Justice of the Peace for cutting green cordwood without permit. The facts at the hearing very clearly indicated that the trespasser had full knowledge of the fact that he was getting the timber on Forest land. In conformity with a New Mexico statute passed in 1923, the J. P. assessed a fine of $2.00 and sentenced the offender to a three months' jail sentence, to be suspended subject to future good behavior. The statute mentioned authorizes a Justice of the Peace to levy a fine of not more than $100 or imprisonment of not more than six months or both. It is believed that the use of this statute will very greatly discourage the practice of intentional cutting of timber on forest land and will prove a very helpful agency in preventing small wood trespasses.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Lawbreakers' Luck: Sunday, March 22, was a very beautiful day. All nature seemed to be at its best. Ranger Dyches, who had just returned from a field trip, was all "keyed-up" with the spirit of going to church. Suddenly Ranger Baldwin enters and informs Ranger Dyches that he has a tip that certain men are fishing in Monroe Canyon. Ranger Baldwin feels that it would not do for him to go after the party because they had been watching his movements earlier in the day; so instead of saddling his horse, he strolled down to Ranger Dyches' in an unconcerned manner and informed him of the affair. Ranger Dyches left immediately. He found a car parked in the oaks just below the narrows.

Dyches took the number and description of the car, then hid his nag in the brush. He followed tracks up the creek; these tracks led to the bank of the creek right over the choice fishing holes. Dyches took accurate measurement of the tracks and followed on. Suddenly he met Mr. John Doe coming down the trail with fishing tackle in hand. Dyches exclaimed, "Well, old man, I've caught you in the act." Mr. Doe misunderstood Dyches' remark and put his hands high in the air. He whined and begged for mercy as all lawbreakers do. He claimed he hadn't caught a fish and didn't know why he left home today.

Dyches trailed Mr. Doe around trying to find the other guilty parties. As they were going down the trall Mr. Doe made a slight signal and two men dashed around a large rock. Dyches jumped past Mr. Doe and plainly saw Mr. Dick Roe and Joe Nix dodging through the lava beds with fishing tackle in their hands. Dyches commanded, "Halt, boys, you are resisting an officer of the law." They dropped behind a rock. Dyches commanded again, "Come down or I will fill you full of lead." This remark was a bluff as Dyches had no gun, but it served the purpose. Mr. Roe and Mr. Nix came down. Dyches told them to bring their fishing tackle. Roe brought his, but Nix claimed he hadn't been fishing. Dyches disputed his word and told Nix to get busy and find the tackle. Mr. Doe called to Dyches and said, "I am damm tired, let's you and me sit here and rest while they hunt the tackle in the rocks." Dyches said, "You may rest, but I will help, I am looking for fish as well as tackle."

Dyches marked Mr. Nix around very lively among the lavas and through Dyches' keen gaze he sighted a grain bag two-thirds full of beautiful rainbow trout. Dyches grabbed this and while doing so saw Nix's tacke but left it. Nix was hunting in an opposite direction. Finally Dyches said, "Did you find your tackle?" Nix said "No, I just had a piece of line and really, Mr. Dyches, I didn't do any fishing. Dyches exclaimed "Oh, hell, Nix, don't lie any more, go over to the cedar and get your pole." Nix obeyed.

They talked the matter over and said they would plead guilty and wanted to get it over. They begged for mercy and promised never to break the law again. Dyches took them before the Deputy Game Warden and the local Justice of the Peace and recommended that they be given the minimum fine. Mr. Doe, Mr. Roe, and Mr. Nix pleaded guilty to the complaint that Mr. Dyches charged them with and each was fined $25 or twenty-five days in the county jail. They assured the Justice that the fine would be paid.

After the sentence was passed the three shook Mr. Dyches' hand and promised him that they would do all in their power to help enforce the laws and gave their word of honor that they would never break another law. Dyches thanked them and said "Don't ever ask a Ranger why he doesn't get to church."--Fishlake.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

A Heron Causes Forest Fire: Geo. Wiebens of San Diego, when going home up the Keen Camp grade one night recently, saw a dazzling light ahead. At first he thought it was a big car coming down the hill, but on rounding a curve he discovered it was not a car but a forest fire going full blast. But this was no ordinary fire. The air was filled with weird, awe-inspiring electrical display that caused George and his partner to stop short in their tracks. But they were not long in discovering the cause of this

Fourth of July celebration on the 21st of March. The charred body of a large gray heron hanging from one of the broken wires solved the mystery. This bird had tried to fly through the high voltage transmission lines of the Southern Sierra Power Company, and had evidently touched two of the wires at the same time, causing them to short-circuit and burn in two. As the wires dropped to the ground and came in contact with damp boulders and earth, another short-circuit formed that melted great holes in the rocks and started a fire along the sidehill.

Ranger Cranston and trail foreman Joe Schermanin, assisted by Wiebens and his companion, by hard work put out the fire before it had spread over any great area, after a passing motorist had notified the power company to shut off the juice.

- - - - - - -

Who Said The Angeles Had Only One Tree? One thousand four hundred M feet B. M. of yellow pine, Jeffrey pine, sugar pine, white fir, and incense cedar were recently sold to the Cedar Lake Development Company, Angeles National Forest, at $3.90 per M for green timber and $2.10 per M for dead timber. The rates bid exceed the advertised rates by 15¢ per M for green and 60¢ per M for dead timber.--T.D.W.

- - - - - - -

DISTRICT 6 - NORTH PACIFIC DISTRICT

A Request to Return and clean up an untidy camp on the Grande Ronde District of the Whitman Forest apparently made an impression on one of the camp tenders here last season. A little later on visiting his camp the day after he had moved to China Cap Creek a fresh mound of dirt marked by a flattened stake was found on which had been penciled:

This marks the place
Where we laid to rest
The remains of things
We loved the best;
Now, Ranger, if you
Are not satisfied,
Get on your knees,
Doggone your hide
And offer up a
Little prayer,
And we will meet
You over there
On China Cap."--(A Camp Tender.)

- - - - - - -

Real Cooperation on the Ground: Col. C. G. Thomson is superintendent of the Crater Lake National Park and cooperates splendidly with local Forest officers. At his request, five complete sets of our Forest folders were recently sent him for use of the public at his Information Bureau at Government Camp, within the Crater Lake National Park. Last summer he distributed thousands of our windshield stickers, his Rangers putting them on tourist cars with the Park stickers,

At the western entrance to the Crater Lake National Park (within the Crater Forest) there is a large and impressive portal over the highway. From the portal hangs a large sign, on the western side of which there is this wording: "Crater Lake National Park" - on the eastern side (for visitors leaving the Park) the sign reads: "Crater National Forest."

-------#-------

DISTRICT 7 - EASTERN DISTRICT

Impounding Brings Results: For a long time Ranger Potts of the Pisgah has been bothered with cattle drifting in from an outside section of forest into the head of Davidson River which lies within his district. Repeated efforts to get these people to keep their cattle off the Forest have resulted in failure. On March 19 Ranger Potts found 10 head of cattle on the head of the river. He drove them 7 or 8 miles to his station and there impounded them in the station pasture and notified the owners the next day by letter, telling them where the cattle were and what they must do to get them out and, if they did not get them out, of the results which would follow later. In two or three days the owners came after the stock and upon paying the district fiscal agent $5 and Ranger Potts $4.50 for his own feed, they were allowed to depart with their stock. Ranger Potts now has Regulation T-11 posted in the post office door in the community in which these men live. He does not look for any further trouble.

- - - - - - - -

Western Electric Co. Reduces Pole Specifications: As a result of an experiment conducted at the Natural Bridge plant of the Western Electric Company over a year ago, the specifications on poles have been reduced effective April 1, so that they are now taking under Class-D poles 25, 30, 35, and 40 feet in length which are only 27, 30, 32, and 34 inches, respectively, in circumference 6 feet from the butt. It is believed that the reduced specifications will be of material advantage in the salvage of blighted chestnut.

-------#-------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 17. Washington, D. C. April 27, 1925.

WOOD WASTE VERSUS PRAYER BONES

By R. D. Garver, Forest Products Laboratory

Recently while studying an operation in the hardwoods of Michigan it was noted that high stumps seemed to be the rule rather than the exception. A stump 3 feet in height, sound, and about 20 inches in diameter attracted our attention. The owner turned to his woods foreman and said, "Jim, don't hire any more of those long-legged lumberjacks," and to me he remarked, "You just can't get these northern lumberjacks to get down on their knees to saw." "No sir," cut in Jim, "you know this is a piece-work job and they won't cut low stumps unless you pay 'em from 25 to 50 cents per tree extra." "That's the way it goes," continued the owner, "we make it in one place and lose it in another, why there's a dollar's worth of lumber in that stump, but, come, let's go have a look at the mill."

The mill operation was unique from a utilization standpoint. Dimension stock was the main output with lumber as a secondary product. Most of the stuff was bolted into 52-inch lengths, ripped with live edges, and manufactured with a minimum of waste. Certainly the mill part of the operation was so managed as to add its bit to the great movement of forest conservation. Further, the very nature of the product made it possible to use short length logs, thus deleting any waste because of crook; and any length of log in a multiple of 52 inches was acceptable, thus making it possible to cut the most out of a tree. Was it not an ideal chance for close woods utilization? And yet one of the mill employees told me that his section of the country produced the man who could cut the highest stump of anyone in the world.

The "dollar stump" as referred to by the owner made me curious; so I worked up the following data. Assume as a true premise that we have a sound hard maple tree 24 inches in diameter, with 50 feet of merchantable length and a sale price of $125 per M bd. ft. for the manufactured product.

The following table indicates the loss which accrues because of improper stump heights:

Stump ht. Variations	LOSS		
	% of total volume	Bd. ft.	Dollars & cents
Stump 6" higher than necessary	1.1	9.6	$1.20
12" higher than necessary	2.2	19.2	2.40
18" higher than necessary	3.4	28.8	3.60
24" higher than necessary	4.6	38.4	4.80

If stumps are cut 6 inches higher than necessary an annual national loss of 418,000 M bd. ft. of timber accrues, and if by any chance the stumps are slightly in excess of a foot higher than necessary the loss jumps to a billion bd. ft. Is it not time to heed the warning as voiced by the darky preacher when he said, "Brethren, it's a lot better to get down on your knees here, than hereafter."

* * *

GIANT POWER

By T. W. Norcross, Washington

It has been suggested that because of the Forest Service interest in power development and regulation a brief statement of the Giant Power Plan of Pennsylvania would be worth while. The scheme is big and in the limited space available a description can hit only the high spots.

Giant Power in Pennsylvania will be mainly coal-made power. Water power supplied only 11 per cent of the total consumption in 1923 and, even though intensive development is approaching, its relation to the total power consumption will always be small. Legislation is recommended making legal the consolidation of hydro-electric and steam-electric power companies.

The objectives of Giant Power are:

1. Steam generating plants with capacities of 300,000 KW or over and located at or near the mines.

2. Extensive utilization of by-products from the coal.

3. Trunk transmission lines of high voltage.

4. An intergraded system of supply and transmission and of distribution.

5. Full development of water powers.

6. Trunk line railroad electrification.

7. Electric service for the rural population.

8. Material reductions in rates, especially to the smaller consumer.

9. Public direction and supervision of the entire proposed development and its operation.

The report does not advocate State ownership but extensive State regulation. All power is to be pooled into one or more so-called reservoirs and drawn therefrom as needed by the separate users. The entire power business will be divided into production, transmission, and distribution, no two of which may be controlled by the same interest. One important and interesting feature is that the transmission lines will be classed as common carriers.

The Giant Power Board will issue permits for the construction and operation of the Giant Generating Stations and the Giant Transmission Lines. These permits will be limited to 50 years and will contain clauses which the State finds necessary to proper service and regulation. Provision will also be made, at the termination of the lease, for the taking over of the properties by the State for its own operation or for the issuance of other permits. The transmission lines will be located to give the best connection with and service to other common carrier lines. The State will be divided into transmission districts on the basis of present facilities and future needs. Two new classes of distribution systems are proposed - rural electric districts and mutual electric companies. In addition to the control provided by permits from the Giant Power Board, the plan includes effective regulation through the Public Service Commission to cover contracts, facilities, service, prices, rates, accounting, future security issues, and maintenance of facilities. Provisions are proposed also to encourage interchange of power with other States.

-------#-------

THE COFFEE FORESTS OF PORTO RICO

By William P. Kramer, Luquillo

A bill to encourage reforestation and planting of new coffee forests has recently been introduced in the territorial Legislature of Porto Rico. Both purposes of the bill are of the utmost importance, as an extension of either the forested area or of the coffee cultural forests will be very beneficial to the island. Really the only extensive forests on the island today are the coffee plantations, and it is these that protect the headwaters of the majority of the rivers now being used for irrigation purposes or power development.

Twenty-five years ago the coffee exportation from this island approximated 60 million pounds, while during the past fiscal year it was only 22 million pounds. This decrease has been caused by the disappearance of coffee plantations from the mountains, which in itself is unexplainable because very little of the vacated area has been planted to any other crop. The only conclusion to be reached is that the greatest part of the abandoned coffee forests are today lying in a waste condition, and any reasonable effort on the part of the legislature to increase this industry would be justifiable.

In order to be certain that there will be an impetus to the planting of coffee, the Forest Service has planted coffee seed of select quality in the nursery at Rio Piedras and at the present time 72,000 seedlings are in condition for transplanting. Coffee forests serve to produce wood products of great value to the island and must be given an important place in our reforestation policy.

The average assessment on brush lands in Porto Rico today is $13.48 per acre. A reduction to $1 per acre for five years, as the bill provides, would represent quite a saving, and at the end of that period the landowner would have a producing coffee forest, or a tract of forest from which thinnings could be made to pay all advance in taxes at that time.

WASHINGTON NOTES

American Forest Week Activities in Washington: The Forester opens the American Forest Week campaign in Washington with an address at the Central High School Monday, April 27. Secretary Jardine will broadcast a radio message that night.

Eighty-seven national organizations now compose the American Forest Week Committee. A dinner was given in Washington on April 13 at which 22 members of this committee were present, Colonel Greeley representing the Forest Service. At this meeting a subcommittee was formed for the purpose of working out plans for a permanent organization which would carry on a campaign in forestry throughout the year culminating in a big campaign in the spring. Colonel Greeley is chairman of this subcommittee.

In cooperation with the Motion Picture Theater Owners Association a slide carrying a Forest Week message will be shown at every motion picture theater during the week.

An unprecedented amount of printed and mimeographed material has been distributed this year as follows:

Program	150,000	copies
Proclamation	120,000	"
Committee Booklet	90,000	"
Committee Clip Sheet ..	18,000	"
Mimeographed Statements	28,000	"
Total	406,000	"

In addition about 5,000 copies of the various regular publications of the Forest Service and several thousand copies of forest fire posters were distributed.

The Office of Blister Rust Control, the Biological Survey, County Agents, and Extension Foresters have also been active in spreading the gospel of American Forest Week.

- - - - - - -

Associate Forester E. A. Sherman left on an inspection trip to the Great Lakes. He expects to be gone about a month.

- - - - - - -

Grazing Gets a Heavy Order: The Subcommittee of the Public Lands Committee, appointed under Senate Resolution 347 and of which Senator Stanfield of Oregon is chairman, held its first hearing on April 17. Colonel Greeley attended the hearing and in addition to giving out a brief review of the general situation secured a statement from the committee as to what information they would expect the Forest Service to furnish. The committee has requested a large amount of data, part of which will have to be secured from the field. Among other things, they wish a complete classification of range land by Forests,-the numbers of stock, permits, and fees for each year back to 1906; also the permits and numbers of stock classified by grades and the total area of dependent agricultural land and grazing land in each grade. An endeavor is being made to have some of their requests reduced. In working out the classification of range lands, Form 438 seems indispensable at the present time, although some difficulty is being experienced in reconciling the figures given by the Forest Supervisors and making the totals agree with those in the National Forest Area Table.—C.E.R.

- - - - - - -

Pass the Smelling Salts: Many questions come to the Office of Forest Experiment Stations on such subjects as How to grow willows to produce baskets? How to kill a shade tree without anyone knowing what caused its death? The prize package came recently: "Kindly let me know if a tree has any pain when it is chopped down." The next invention by foresters will be a hypodermic for the trees marked for cutting on sale areas.—E.N.M.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Grazing Authorizations: The total term authorization for D-2 is 263,352 C. & H., and 886,482 S. & G., as against an estimated permanent capacity of 2,200 swine, 524,518 C. & H., and 1,501,238 S. & G.

It is a matter of interest that the latest reports show 2,616,000 sheep in the State of Colorado with a 28 per cent greater valuation than a year ago. Of this number approximately 1,000,000 are taken care of on the National Forests.

- - - - - - -

Game Law Enforcement by Forest Officers: One hundred and thirty-seven commissions as special game wardens for the State of Colorado have been issued to field and district officers by the State Game Commissioner. These cover a two-year period beginning April 1, 1925.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Crook Forest Has Desert Arboretum: Mr. W. B. Thompson, wealthy mine operator and one of the principal owners of the MagmaCopper Company at Superior, has established an arboretum for research in botany subjects. A bill has been introduced into the Arizona legislature to exempt this property from taxation, since it is organized for a non-profit research in desert flora. Mr. Thompson, according to newspaper reports, intends to endow the arboretum with a trust fund of $1,000,000 for the pursuit of scientific research along the lines indicated.

- - - - - - -

Santa Fe Trying Sale by Estimate: Supervisor Andrews recently had an area marked out for a tree estimate sale of 123 M ft. in Pedame Canon for a local sawmill. A 100 per cent caliper estimate was made, and the area estimated separately in three small natural units. The timber will not be scaled before milling but cutting will be held successively to the natural units and when each is completed payment for the next one will be called for. The basis of deduction for defect from the caliper estimate was secured from a previous sale adjoining the new area. On 1600 logs having a sound scale of 113 M the defect was 26½ per cent. This, of course, included a close check up of all broken and defective material not logged out.

- - - - - - -

Cooperating Agencies Meet on Santa Rita Range Reserve: On March 13, Dr. Clements of the Carnegie Institute, Dr. Vorhies of the University of Arizona and Dr. Taylor of the Biological Survey, all of whom are cooperating in the investigative work, made a trip over the Santa Rita Range Reserve with Director Culley for the purpose of discussing the projects under way and arranging the nature of cooperation for the future. Dr. Clements' chief interest in the work is from an ecological point of view, while Dr. Taylor and Dr. Vorhies are doing a great deal of field work on the Reserve in connection with their study of the life history of the jack rabbit. Their last study, the data for which were largely collected on the Reserve, covered the life history of the kangaroo rat and the result of their findings is given in Department Bulletin No. 1091.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Training Camps: Tentative plans have been made for a fire training camp this spring. If these plans materialize the camp will be held the first week in May at Starkey Hot Springs on the Weiser Forest. It is expected that approximately 25 Forest officers will attend.

- - - - - - -

Kaibab Deer: The March report on game shows that there has been no drift from the congested areas. Areas north of the mountain and Kanab Creek have been inspected, but drift is negligible. Very heavy losses have occurred in last year's fawn crop caused, it is believed, by their inability to reach as high for browse as the older deer. The remains found of dead ones showed evidence of predatory animals. In March, on the heavily congested areas when the grass was two to three inches high, the deer were eating juniper and pinon principally and very little grass.

- - - - - - -

Cooperative Marketing: The Utah Cattle and Horsegrowers Association is taking up cooperative marketing in a very serious way. It formed the first topic of discussion at their recent convention at Salt Lake City, and is now being followed up by a series of meetings which will be held at various points in the stock raising communities of Utah, beginning April 13. The stockmen feel very strongly that in cooperative marketing properly conducted lies a cure for a number of their difficulties and intend to give the thing a thorough try-out as soon as it can be organized.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

The Opening Gun: The opening gun of the California fire season was an 800-acre conflagration on the west slope of Hot Spring Mountain, Palomar District, Cleveland National Forest, on March 21. The fire burned on Indian land only, and was extinguished with the help of 21 men.

- - - - - - -

Agricultural Census of Mountain Counties: A recent farm census of thirteen mountain counties in California tends to strengthen our conviction that the classification of the National Forests in District 5 is about 100 per cent correct and that there is practically no unlisted land left in our Forests upon which the average individual could hope or expect to make a living through farming.

This census still further brings out the fact that in many of our mountain counties farms are still decreasing in number, as they have been for the past 25 years. From 1905 to 1915 there was a great boom on the part of the "back to the land" advocates. That was when most of the June 11 homesteads were listed. Now this has all "blown up" and most of the June 11 farms are abandoned or have passed into the hands of large owners.

Most of the large decreases are absolutely due to the effort of misguided home seekers to farm in regions where poor soil conditions, lack of water for irrigation, or "old man climate" make successful farming impossible under present-day conditions. But the average homestead seeker is "from Missouri." He seldom learns from the experience of others.

--------#--------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Greasing Tools: Along with other topics for discussion in Service news letters such as: "Do cougars scream?" etc., we would like to bring up the subject of proper method of greasing tools and mess kits for storing over the winter. On the Columbia it appears that gas engine oil has been used and found desirable by one member. Another man uses what is called technical oil, purchased from the Standard Oil Company, which is a thin body oil, apparently designed for this type of use. On the Whitman we find that the Forest officers like to use a petroleum, which is a sort of coarse vaseline, for smearing on all tools, including mess kits. The Umatilla personnel also tried the petroleum this year and some expression of its merits or otherwise is probably forthcoming from them by now. Who knows the answer to the question: What is the best oil or grease or whatnot for coating axes, saws, mess gear, and other like equipment for preservation against rust over the winter months? Who has the next comment?

- - - - - - - -

How Brigham Lake Got Its Name: Some years ago while exploring in the high country of the Wenatchee Forest, Supervisor Sylvester found a group of lakes that had not been named. According to the story, he named them for all the best girls he had ever had.

Last summer the Chelan County Game Commission sent men to every lake in the county to plant fish. In western Chelan county these men found a small lake unnamed, surrounded by about a dozen lakes bearing girls' names. They were the lakes Sylvester named. The fish planters named their discovery "Lake Brigham."

--------#--------

DISTRICT 8 - ALASKA DISTRICT

New Members Added to Chugach Force: The yearlong force of the Chugach has recently been augmented by the addition of a trail foreman and a technical assistant, thereby increasing the permanent force from five to seven.

The trail foreman is Martin Kilian, who served the past two seasons as temporary trail foreman. He took the Ranger examination last season and has now been appointed as Assistant Forest Ranger on the Chugach.

Mr. Kilian, who is 28 years of age, is a seasoned sourdough, having spent five years in the Arctic with Steffanson, while the latter was proving that arctic explorers could live off the country. For eight months Kilian and four companions drifted on an ice field and lived entirely on seal and polar bear.

The Steffanson party, which went to the Arctic in 1915, was not aware that the United States had entered the war until eleven days after the armistice was signed, the news reaching them through a whaling schooner which had left the States the spring before. They were not aware of the signing of the armistice until returning to civilization several months afterwards. During his explorations with Steffanson, Kilian was within 600 miles of the North Pole.

The technical assistant is Harold J. Lutz, formerly of District 2, but more recently of the Tongass National Forest. The training Mr. Lutz had in District 2 on railroad tie sales especially fits him for work on the Chugach, where the most pressing silvicultural problem is to work out a cutting plan for the Alaska Railroad, which uses the equivalent of seven million board feet a year in its maintenance work. Mr. Lutz reported for duty on the Chugach early in March.--L.C.P.

- - - - - - -

Loss of the "George Jr.": The George Jr. was an ordinary gas boat 50 feet long, about 13 feet beam, equipped with 35 horse power Fairbanks-Morse engine, having a mail contract to carry mail between Juneau and Petersburg, stopping at various points. She left Petersburg for Juneau, due to arrive here January 25, at an unusually cold and stormy time. She reached Taku Harbor about 20 miles south of Juneau on her way north, putting in there as usual and out again for Juneau. As she did not arrive, search was finally instituted by the owner who lived at Petersburg, and upon February 6 the frozen bodies of two of the crew and one passenger were found on the beach at Admiralty Island approximately opposite Taku Harbor. No trace of the gas boat itself was found. When she left Taku Harbor the man reported that she was well iced down. Presumably after leaving there the spray froze on the boat so badly as to make her water-logged and unable to weather the sea that was running at that time.

Of interest in the case is the fact that Ranger MacKechnie of Petersburg was the first man to start out on a search for the missing boat, the owner, George Ramstead, coming to him one night after he had been unable to get track of his boat, and asking MacKechnie if he would start out on the search. MacKechnie left at once, although the weather was not favorable and although a fishing boat which had also been secured to assist in the search declined to leave until the next morning. Although "George Jr." was not one of our boats its loss is of importance in illustrating one of the dangers of small boat travel in Southeastern Alaska waters in winter.

--------#--------

Service Bulletin
U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 18. Washington, D. C. May 4, 1925.

THE SCHOOL OF THE WOODS

By Ward Shepard, Washington

Can the National Forests satisfactorily advance toward a better handling of physical resources without a very material increase in the personal skill of its men? This is the vital question back of the Forester's letter of April 15, of the recent discussions on training, and of the District Foresters' conference next November.

By personal skill I mean ability to get good silviculture, good range management, in short, good productivity of all our physical resources. It is our old friend "Good Workmanship" applied to a very complicated biological problem.

The Service has made notable progress in recent years in timber and grazing management plans, and in silvicultural, products, and grazing research. But these plans and these research results have not been anywhere near fully worked out on the ground in the terms of good silviculture or good range management. We have more or less stuck at a certain general level and in many cases workmanship on the ground is far from satisfactory. Why? In my opinion it is because we have neglected to develop the personal skill of our men - and I am thinking not only of Rangers but of Supervisors, and District and Washington office men. In general, we have tried to supply this deficiency in personal skill by three main routes: First, a system of inspection designed to uncover errors and, by admonition, advice, and follow-up, prevent their repetition; secondly, by setting up standards of performance; third, by building up a corps of experts in silvicultural and grazing research who dig out facts and methods, and theoretically hand them over to the administrative force to put into practice. But do they get into practice? There's the rub!

All this does not imply that the Service has not done a great deal of valuable work in training men and in getting better methods into effect. But the problem of personal skill has not been attacked on a really big scale or as a major activity and until it is so attacked I doubt if we can make satisfactory headway in the more skillful and productive handling of our resources.

We must steer clear of leaning too heavily on the analogy between industrial technique and National Forest administration. The technique of efficiency in the machine industries applies to some of our problems - such as planning; but it offers no solution whatever to our main problem - making things grow from the soil! Machine technique is based on speed, repetition, quantity production, the rapid and orderly movement of raw materials through machines. The modern industrial worker is a machine tender, needing little skill and much patience.

Consider our main and real job by contrast - an infinitely complex job of growing crops from the soil, - a job varying from acre to acre, from mile to mile, from State to State; involving hundreds of tree species and forage plants; myriads of soil combinations; every variation of climate. Almost every ranger district has a job big and complex enough to keep a dozen men busy a lifetime. The Forester needs infinite capacity for skilled observation, subtle deduction, dangerous experiments. His real job is too vital and complex a thing ever to be handled by rules or by admonitions from above to do a good job.

I point out this contrast not with the least intention of discouraging better business methods nor with any lack of recognition of the good work that has been done in training. I am merely urging that correct emphasis be placed on these two lines of activity. The development of better planning and better business methods in general should be used as a means of saving time and money to devote to this main job of better care of physical resources. The Service needs to apply energy and vision to the problem of personal skill and on a scale never before attempted. Without it, we run the risk of stagnating into a typical bureaucracy, without vision, courage, or creative skill. Heaven save us from that fate! So far our youth has saved us, but we have reached that stage of middle age where the danger of complacency forces us to look at ourselves critically and objectively.

Can we tackle this job? We can if we have the will. How?

First, by devoting to training and to better care for our resources the time and money we save by better business methods.

Second, by heavily curtailing or dropping many lines of low priority work altogether. This seems to me the next logical step in the development of work-plans. We must examine every new activity and many old ones to determine their bearing on the main job.

Third, by making such activities as road construction, cooperative fire protection, etc., pay their full cost, primary as well as overhead. One of our amiable weaknesses has been an unlimited appetite for new jobs without any additional overhead. Let's be more critical.

Fourth, by sticking more closely to the job Congress gave us - growing timber and forage.

Fifth, by exercising a strong discipline over competitive demands on Forests by the different Branches.

Sixth, by rotating men in training, keeping a given percentage of our personnel (say 1/5 or 1/10) in training all the time.

Every Forest and every job should become a school - and not a school merely of words and books, but of learning by doing; by experimenting, by handing personal skill on from one man to another. Every big fire ought to be a training school for at least a few men not strictly needed for the job, our best timber-sale men ought to be handing their skill on to other men by personal training; our forest experiment stations should be working out intensive silviculture on the ground with local men; every trail job should be a school; and finally we should have intensively managed training units where men can be trained in advanced methods.

The key man is the Supervisor. We ought, it seems to me, to work more rapidly toward the ideal of the Supervisor as a doer instead of a teller - a doer and a teacher who takes an active hand in all the major activities of his forest, leaving less important affairs to assistants. The Supervisor's main tool is the marking ax, not the swivel chair or the pigeon hole! His battle ground is the timber-sale area and the grazing range, not the ledger or the luncheon club! Let him do good technical work on the ground, let him teach and guide his men, and there need be no fear about the reputation of his Forest in the community or of its advance along sound administrative lines.

So far I have talked mainly about forests and little about men. The economic materialist deals only with tangible commodities. But after all one of the main objects of living is to live, and one of the highly desirable results of forestry will be to give a great many people the chance to live and work and achieve their destiny away from the soul-slaying activities of modern machine industry. In the National Forests, this chance to live and to work will become increasingly satisfying as our men learn to work with skill and the sense of fine craftsmanship. Every forester in the United States ought to visit the Harvard Forest to see the possibilities not merely of growing timber but of forestry as a craft, an art, a satisfying pursuit. Give our men skill and I won't worry about "efficiency" or about their satisfaction with their job.

I want to anticipate two arguments that I know will be hurled at my head: First, "it can't be done," and, second, "the time is not ripe for intensive handling of resources."

Can't it be done? We have always been distinguished for our ability to absorb big new jobs - e. g., grazing appraisal, agricultural census, land classification. I claim we have the men and the money to train - if we want to.

Are we ready for a more intensive handling of resources? Our hoary old friend "economic obstacles" won't answer this question! There are many, many places where we can employ more intensive methods if we know how. We are advising private landowners to invest their money in reforestation; let's invest more of our own in more intensive silviculture, as has recently been done in the new timber-sale fire rules.

I have dealt with some of the broader aspects of the problem of personal skill in relation to our main goal. The proposal to hold a technical examination is only one part of the problem.

That proposed requirement would be only one phase of the larger problem of training all our men, of building up personal skill, of making forestry a living, growing art in which men would take keen pride. Let's by all means take in more trained foresters; but let's also make the National Forests into a school - a universal, continuous school - the School of the Woods, where men will nourish their ideals and their skill in good workmanship, which is the soul of any job.

When Napoleon conquered Prussia, he prescribed that the Prussian Army be reduced to 40,000 men. Stein, the great prime minister of Prussia, scrupulously adhered to this hard restriction. But every few months he dismissed his 40,000 soldiers and trained 40,000 new ones! And in something like 10 years he had enough trained soldiers to lick the mighty Napoleon.

That is the spirit in which we must train our men as we continue to do our job. Patience, discipline, but indomitable will for a great ideal! Only in that way can we conquer those subtle enemies of advancement - Complacency and Defeatism.

-------#-------

A FABLE

By E. L. Perry, Santa Fe

Once upon a time there was a Supervisor who beat his brains for some new PR stunt for the field force to put over during American Forest Week. On the third sleepless night a vision appeared to him, and with a glad cry he leaped out of bed and set the precious idea down on paper lest it escape him before morning.

It was nothing less than that each of the Rangers on the Forest should write a Forest Conservation article for some popular publication and get it published during the week. For, he reasoned, there are ten Rangers on the force, and if the articles reach an average of only 100,000 persons, a million people will get the message at one Fell Sweep. It was truly magnificent.

So the next morning he dashed off a circular letter to the field in which the new Minimum Requirement was set forth in all its lucid brilliance. There was not a little fluttering among the Rangers, but like the Loyal Force they were, they cleaned the teeth of the trusty type mill and ground out literature, each according to his lights.

But it seems that the Supervisor reckoned not with his host. For by and by all of the manuscripts came back, each accompanied by a neatly printed and vanity-soothing Rejection Slip - as manuscripts are wont to do. The Supervisor eagerly scanned the pages of the leading publications for evidence of the birth of his Brain Child, and tore his hair in the bitterness of his chagrin when he found nothing. And in the end he was forced to fall back on the time honored "Talks by Forest Rangers."

MORAL: We may not be worth shucks in the realm of belles-lettres but we are sure-fire orators. We know this, because no audience has ever got up and walked out on us.

-------#-------

WASHINGTON NOTES

Does Anyone Know of Caplan's Whereabouts? Albert Caplan left home Sunday, March 29, 1925, on a hike towards Trenton, N. J., and New York. He is 16 years of age, 5 ft. 8 in. tall, weighs 137 pounds, has dark hair and complexion, good teeth, large frame, and wears silver-rimmed glasses. When he left home he had on khaki knickers, shirt and knapsack, scout shoes and hat, black and white check flannel lumberman's jacket.

Since he is interested in forestry, it is thought that he might have applied for employment in the Forest Service. If you have any news of this young man, will you kindly notify his father Joseph Caplan, 2340 N. Park Avenue, Philadelphia?

- - - - - - - -

Aerial Fire Patrol Will be Resumed: A letter has come from the War Department suggesting a plan for aerial forest protection by which they will furnish planes and parts and the overhauling of planes and we will organize and manage the project as a Forest Service activity. The War Department will detail to us one Air Service officer to assist in the management. In order to get the advantage of uniformity in management and to have the control located as near as possible to the scene of operations and the sources of supply and assistance from the Air Service, Mr. Redington is being asked to take over the management of the activity for the Forest Service, including general supervision of the work to be done from the three bases in Districts 6 and 1. He will not be expected to do this unless a way can be found whereby he can give the necessary supervision without undue interference with the regular duties of himself and his staff.--R. H.

- - - - - - - -

Mr. Sherman Appointed on Housing Committee: Secretary Jardine has appointed Associate Forester E. A. Sherman one of a committee to investigate and recommend a program for the best solution of the proper housing of the various bureaus and offices in the Department. The Treasury Department, we are told, has hopes of securing definite action with respect to a building program at the next session of Congress.

- - - - - - - -

Junior Forester Examination Will Include a Thesis: The Civil Service Commission has assented to the Forester's proposal to place greater stress than in the recent examination upon the scientific and technical character of the Junior Forester examination by requiring, in addition to education and experience, a thesis as a ratable subject. It is not contemplated that the thesis required will be such as is called for in examinations for an advanced scientific degree held by educational institutions, and this will be made clear in the announcement. It will be stated that the thesis may include the results of some original investigations on the part of the applicant, or it may represent work done by the applicant in collecting and arranging facts relating to some phase of forestry of his own selection, and drawing deductions from these facts. It will have to be prepared prior to the examination, authenticated as the applicant's own work by some responsible officer of the school attended, and delivered to the examiner on the day of the examination. The Forester is advising the forest schools of this well in advance, so that their students may have full opportunity to be prepared.—R.H.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Clearwater Helps Increase Eligible List: An excellent record in the development of men for Ranger positions has been made during the past year or two by the Clearwater National Forest. Last fall eleven local men took the Ranger examination at Orofino, Idaho. Eight of these men are now on the eligible list. One of those who failed was a young man without either experience or training in forestry. One of the others had to his credit only one season's experience as a Forest guard. The high percentage of men who passed speaks very well for the training and experience given to Forest guards employed on the Clearwater.

- - - - - - - -

Munchausen Up-To-Date: A young man who worked on the Flathead last summer broke into print in the March number of "Field and Stream." His article is a detailed account of a gruesome find by a Ranger and himself while on a field trip. In support of his story he submitted a photograph of the skeleton of a man and a moose, the positions of which indicated a fight to the death. The picture and story appear in the March number.

But Truth will prevail ! Supervisor Hornby saw the article and discloses the facts. The photograph was taken several years ago and is copyrighted. The scene of the tragedy is in the Glacier National Park, not on the Flathead. The author of the tale did not make a trip with a Ranger; he was discharged for insubordination and inefficiency, although his story implied that he occupied a position of considerable importance.

The editor of "Field and Stream" has been informed as to these facts. It is probable that there will be no prosecution in the case, but at least the young narrator will be shown in his true colors to those readers of the SERVICE BULLETIN who read the story in"Field and Stream."

--------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Fire Meetings on Forests: Following the Albuquerque fire conference, which was attended by a representative of each of the D-3 Forests, a series of forest meetings have been arranged to be attended by all of the Rangers, Assistant Rangers and as many fire and per diem guards as can be induced to come. Members of Operation plan to attend five of these meetings as observers and advisers, but because of conflicting dates they will not be able to attend all of them. Reports from the meetings which have already been held show that a great deal of good has been accomplished and a large amount of interest stimulated among the forest Rangers and the cooperators. It is believed that these meetings will greatly increase the efficiency of the fire protection force as well as stimulate interest in new methods of prevention and suppression.

- - - - - - -

Letting the Neighbors Help: A recent item in the El Paso Herald indicates that educating our neighbors is bearing fruit and quotes from the Lubbock Avalanche daily: "Lubbock Avalanche urges tourists this year to visit the 'unmatchable White Mountains'. And with the advice and consent of the U. S. Forest Service we add that if they will be matchless tourists when they visit the unmatchable White Mountains maybe there will be fewer forest fires."

--------#--------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Tightening Handles: Ranger Hutson of the Targhee has recently suggested methods for tightening tool handles similar to those used in treating wagon wheels to prevent shrinkage. One method used is a combination of water and linseed oil. Ranger Hutson says, "Soak the article to be treated in water over night. Remove from water and soak in hot linseed oil near the boiling point four or five hours. Hot water may be used and requires a shorter length of time. The theory is that the water opens the pores of the wood and causes it to expand to a greater degree than oil will. After placing in hot oil the heat forces out the water by evaporation and is immediately replaced by oil, which does not evaporate readily. Another method is simply using hot linseed oil, soaking it for three or four hours. This method is quicker than the other."

- - - - - - -

Losses of Livestock in 1924: A recent compilation of data on losses of livestock in District 4 sustained by the permittees shows a total of 168 horses, 9,600 cattle and 78,021 sheep, due to the following causes:

Disease	32 horses	990 cattle	3,811 sheep
Poisonous plants	29 "	5,178 "	11,732 "
Predatory animals	18 "	295 "	44,140 "
Straying and unknown causes	89 "	3,137 "	18,338 "

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

The Garden of Eden Discovered: Talking about old things, the Garden of Eden now looms up, at least that is what local historians have dubbed an interesting spot adjacent to the Mono National Forest.

The wonders of the place led to the San Francisco EXAMINER sending a special reporter and later an experienced investigator to look it over. The site is along the East Walker River, almost the identical spot where on January 23, 1844, Fremont found nuts of the single leaf pine from which the species was identified and named.

The main interest of the place is that prehistoric people have left their traces through numerous hieroglyphics on outcropping basaltic rocks, covering several acres. The place being close to a public road makes it easy of access and it is visited by many a Sunday party. One of the young members of the reporters' party on visiting the "garden" asked where the fig trees grew.

It may be possible that later discoveries will lead to petrified specimens contemporaneous with the Mohave Desert palms. Near this same spot a sheep herder picked up a fossilized tooth of a mastodon. It is barely possible that those bloomin' mastodons ate up the fig orchard shortly after Eve picked her first party frock.--Mono.

- - - - - - -

Hundreds of Improved Auto Camps: The Automobile Club of Southern California has just sent out the 1925 issue of their booklet listing the auto camps and camp grounds of the Pacific Coast. This list shows that there are 565 improved automobile camps in California, of which 99 are on the National Forests.

Outside of the camps maintained by the Forest Service and the National Park Service, it is noted that few of these camps now are free. Charges range from $.25 to $1.00 per car per day, depending upon the character of accommodation furnished.

* * *

DISTRICT 6 - NORTH PACIFIC DISTRICT

Cigarette Campaign Results: Forest fire warning slips in cigarette packages will be a feature of the 1925 season as the result of a drive which has been carried on in District 6 intermittently for several years. This was started by a letter from former Secretary Meredith, and has been followed up by this District rather consistently. Several resolutions were passed by the Pacific Logging Congress, Western Forestry & Conservation Association, etc., and copies of each forwarded to the manufacturers. Last summer, at D-6's suggestion, this was made the subject of a "broadside" from all the chambers of commerce belonging to the Oregon State Chamber, as well as many of the Washington Chambers of Commerce.

Approximately twenty cigarette manufacturers were on the list. Some very effective and original letters were written by the commercial bodies.

To date five of the tobacco firms have signified their intention of complying with the request. Such well known brands as Chesterfields, Lucky Strike (10¢ size) and Camels will hereafter carry fire caution slips.

- - - - - - - - - -

Called His Hand: Three years ago, a youngster in his first year of High School applied to Supervisor Weigle of the Snoqualmie for work in the Forest Service saying that he was tired of school and wanted to quit and go to work. Mr. Weigle wrote him at some length lecturing him for the folly of quitting school and advising him that the Forest Service would not have use for a boy who would not stick to it and finish his schooling. The other day the boy, with Mr. Weigle's letter in hand, walked into the office and informed him that he had completed his schooling in the Seattle High School and was looking for work.

--------#--------

DISTRICT 8 - ALASKA DISTRICT

Fire Cooperation Sought: Eighty to ninety per cent of the fires occurring on the Chugach are along the right of way of the Alaska Railroad, in the Anchorage ranger district. A plan is being worked out for much closer cooperation than heretofore between the railroad and the Forest Service for the handling of this hazard.

--------#--------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 19. Washington, D. C., May 11, 1925.

IS THE FOREST SERVICE BUREAUCRATIC?

By W. B. Greeley

The Forest Service is accustomed to criticism. It was cradled in opposition and has thriven on attack. It is, however, a new experience to be raked by fire from the rear, as in the editorials recently published by The Outlook.

To much of this sniping we need pay scant attention. We know that National Forest timber is honestly sold and honestly scaled; that the Forest Rangers do not take vacations when they are needed for fire fighting; and that holding the Service responsible for the spread of the chestnut blight is as reasonable as charging up the Illinois tornado to the Weather Bureau. We are not afraid of any disprejudiced investigation of road building on National Forests or of their use for recreation, although both are entirely appropriate subjects for inquiry or criticism. We know that the form and contents of the Forester's annual report are matters of no great moment. The work of the Service stands for itself, however poorly or inadequately it may have been described.

Of all the implications contained in The Outlook, the one I believe most worthy of our own reflection is the query raised in the issue of April 15, whether the Forest Service is a "bureaucracy," benevolent or otherwise.

When and how may a public organization become bureaucratic? It is a broad question, but I will venture a partial list of answers.

First: when zeal for public service is overshadowed by a desire to retain jobs or to perpetuate, expand, or glorify the organization itself.

Second: when red tape, rigid formal procedure, or the minutiae of routine clog the effective doing of the work in hand at the time and place where it should be done.

Third; when essential work and functions are extended, through the use of either legal or assumed authority, into needless and unavoidable interference in the affairs of the people or institutions with whom the public agency deals.

Fourth; when an official crust replaces the open mind, readiness to get and mutually consider opposing views, and responsiveness to fair criticism. The Outlook thinks the Forest Service is in danger of becoming bureaucratic because of our "contempt or disregard for public criticism." Putting aside the reasons for genuine resentment which any disinterested editor would find in the material published by The Outlook about foresters and the Forest Service, the challenge is a fair one.

So far I have set up a few tests of bureaucracy as between an official organization and the public with whom it deals. Other tests of equal importance apply to the workings and spirit of the organization within itself. So again, an agency like the Forest Service becomes bureaucratic:

When it loses a common zest for public service shared by all its members.

When it ceases to be democratic and becomes sharply divided into bosses and subordinates.

When it restrains a constant flow of new and stimulating ideas from the bottom up and their mutual discussion by all ranks on an equal footing.

When uniformity of methods or prescribed ways of doing work overbalance and discourage personal initiative and responsibility.

When the machinery of operation and reports becomes an end in itself or slows down progress in the fundamental work for which the organization exists, or when for any reason zest for better technical accomplishment and growth in individual skill are choked off by the moving impulses of the organization.

When action on personnel becomes stereotyped or arbitrary or fails as an incentive to the whole organization or loses the confidence of its members at large.

When the boss is shut off from the pulse of his organization or is closed to any channel of information from within or from without that would help him in holding the ship to a straight, clean course.

The spirit and traditions of the Forest Service are set firmly against any and all of these earmarks of bureaucracy. In that fact lies one of the greatest sources of the pride we take in the Service. Nevertheless, these tendencies are more or less inherent in any human organization, like the "original sin" supposed to be implanted in mankind. The price of freedom from bureaucracy is eternal vigilance against the symptoms of the disease.

I do not believe that the Forest Service has become bureaucratic. But we are no more immune to the germs of the malady than any other organization of men and women. It is something well worth our sober reflection and discussion. That is why I am putting it before you. If we are falling into bureaucratic ways let's bring them right out into the light and face them.

I am going to open up, here and now, on one point, which is the last in my enumeration of bureaucratic symptoms. I have heard recently that the man at the head of the Forest Service is thought hard to approach and difficult to talk to, and that men are held back from telling him things that they would like to get off their chests or that he ought to know for the good of the Service. This suggests that I am in a fair way to become a hardened bureaucrat. That would be a deadly and tragic end for anyone who undertook to lead the Forest Service. Let me here and now, as far as lies in my power, clear away any barrier that may stand between me and other members of the organization or anyone outside the organization. I want your confidence and the freest individual and personal expression of your views or criticisms. Please take this as a sincere invitation to talk or write to me in whatever degree of confidence you wish about anything connected with the good of the Service. This is the sort of leaven that will help in keeping any organization true to its fundamental aims and purposes. It is one of the things that will help to protect the Forest Service from bureaucracy. And I want it.

-------#-------

HOW FAST WILL DOUGLAS FIR GROW?

By Richard E. McArdle, Pacific Northwest Exp. Sta.

The compass, calipers, and other paraphernalia of the Pacific Northwest Forest Experiment Station growth study crew excited the curiosity of the old-timer. "What're you fellers doing, anyhow?" he asked. "Be you surveyors, or what?"

"We're trying to find out how fast this second-growth Douglas fir really is growing," I answered.

"Well," said Old-Timer, shaking his head as one about to divulge a great scientific discovery, "I'll tell you - she grows pretty fast."

"She grows pretty fast" ! And the truth of the matter is that today this is almost the extent of our knowledge concerning the growth of the tree which furnishes more lumber than any other species of tree in the world. "She grows pretty fast" is not sufficiently accurate information for the investor about to put his money in timber bonds, or the lumberman who is considering reforesting his cut-over lands but wonders whether "pretty fast" is fast enough to assure a profit on the venture. Nor can intelligent conservation legislation be based on information of this sort. The present system of taxing timber and timberlands is declared burdensome and entirely unsatisfactory; we must not tax growing timber at its full value every year but tax only the annual growth, or the yield at the time of harvesting; so the experts tell us. But insufficient data are available as to the annual growth or yield. Tax reform must be based on definite information, not on "pretty fast."

"But," added Old-Timer, "she grows a lot faster some places than she does others." Exactly, and what the growth study party of the Pacific Northwest Forest Experiment Station has to do is to locate those places and discover why it is that Douglas fir will grow faster, larger, and better on some soils than on others. For it won't do to have our timber owner optimistically base his reforestation estimates on land which cannot possibly come up to his expectations.

Again, we know that the rate of growth varies greatly in relation to age. At some period in the life of the tree, growth becomes so slow that it is no longer profitable to postpone harvesting the timber crop. Accurate information on this point is now being obtained. One farmer we encountered told us that he was considering slashing and burning a fine young stand of fir; said the timber wasn't growing fast enough, and that although the land was poor in quality and full of rock, he figured it would pay more as pasture. With the aid of the information already secured we were able to show him that his timber was just beginning to pass from the slow-growing period of infancy and would shortly enter the "pretty fast" growing stage of adolescence. In five years more he would have fence posts, in fifteen years more small sawlogs, and meanwhile, all the firewood he could possibly use. As pasture, he estimated the land worth fifty cents an acre a year. When he learned how much timber would grow each year he promptly decided to postpone the slashing.

Forty-three years ago one part of a western Oregon farm was cleared and prepared for a crop which for some reason was never planted. Large near-by fir trees took charge of the area and sowed it thickly with good seed. Today there is an excellent stand of young timber here of which the owner is rightly proud. About half of this area has remained untouched; on the other part, trees have been cut out here and there. This thinning gave the remaining trees more room to grow. The result is that only firewood and fence posts are to be had from the nature-grown stand, but on the thinned area are trees 18 and 20 inches in diameter - sawlogs, if you please. And less than forty-five years ago this was plow land. Here certainly is an instance of "pretty fast" growth.

By accurately measuring sample acres in carefully selected stands of various ages on different qualities of soil, a so-called "yield table", is now being built up. This yield table will show the rate of growth and quantity of timber to the acre at all stages during the life of the tree, depending as in agriculture upon the quality of the land. The Pacific Northwest Forest Experiment Station has secured data on over 1100 such sample areas and, after another year of work, will have ready a preliminary yield table for Douglas fir applicable to the Pacific Northwest. This information is for the use of the lumber industry and the public, and no longer will the investor, the owner of cut-over forest lands, the tax reformer, the farmer, and all who have need of such definite information, be obliged to resort to so hazy an approximation as "she grows pretty fast."

-------#-------

WASHINGTON NOTES

Statement of Receipts for the Period July 1, 1924, to March 31, 1925, shows a decrease of over $154,000. All of the Districts are in the red except 1, 2, and 7. Our greatest falling off is in the timber-sale business, which shows a red figure of $149,653.76. Grazing comes next with $44,065.65, a part of which is probably caused by delinquent payments of fees. District 1 has increased its receipts by $24,104.68, District 2 by $124,992.77, and District 7 by $13,544.26.

- - - - - - -

Elk Herd Increasing: In 1916 Colonel Graves' elk program stated that after due consideration of all factors and conditions it was the unanimous opinion that the herd of elk in the Jackson Hole country should never exceed 16 or 18 thousand head, and that even with that number considerable additional hay for winter feed purposes should be provided. The recent count of the elk in this herd taken under the joint auspices of the Biological Survey and the Forest Service shows the herd now contains over 20 thousand head. Whose next move?--W.C.B.

- - - - - - -

Dean Moon Appointed on Editorial Staff: Dean Franklin Moon, New York State College of Forestry, Syracuse University, has just received appointment as a member of the editorial staff of the Journal of Forestry.

The present staff is composed of Raphael Zon, Editor-in-chief, and the following associate editors, Emanuel Fritz, University of California; B. P. Kirkland, University of Washington; Barrington Moore, New York City; A. B. Recknagel, Cornell University; George B. McDonald, Iowa State College; J. W. Toumey, Yale University; Theodore S. Woolsey, Jr., New Haven, Conn., and Dean Moon.

- - - - - - -

The "Pine-Bur" Series by Eloise Gerry, Forest Products Laboratory, which were published in AMERICAN FORESTS AND FOREST LIFE from October, 1924, to January, 1925, have been reprinted in a very attractive form and are being distributed by the American Forestry Association.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Forest Officers in D-2 Enthusiastic Over New Pump: A new Evinrude pump was recently tried out on a sawdust fire with complete success. This was a 4-acre fire in a particularly dangerous place which at some points was burning three feet below the surface. The burning sawdust was sluiced out with the water. The fire was completely extinguished in two days after a constant use of two streams of water from a stream about 600 feet distant. The Forest officers who handled this fire are most enthusiastic over the pump for use on all forest fires, when water is available.

- - - - - - -

Drouth Closes Planting on Pike: The drouth that prevailed throughout Colorado in 1924 continued during the past winter. The snowfall was below the average, especially on the eastern slope. About six inches of snow fell in the first week of April in the vicinity of Monument; so it was decided to go ahead with the Pike planting operation. Planting was started on April 14, but at the end of two weeks, as no additional moisture had fallen and ground conditions were such that it seemed useless to plant any more trees, it was decided to discontinue the operation. The ridges and the south and west exposures were completely dried out, and the only sites that had sufficient moisture to warrant planting were north and east exposures under aspen. About 250,000 trees were planted. The stock that was not planted consists of seedlings which can be held over until next year.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Members of the Old Guard: Dr. E. W. Nelson, head of the Biological Survey, A. F. Potter, one-time Chief of Grazing and Associate Forester, and Will C. Barnes, present Chief of Grazing of the Forest Service, according to an article by George H. Crosby, Jr., appearing recently in the St. Johns Observer, were early residents of Arizona. Nelson came to Arizona in 1884 and lived on a ranch in Milligan Valley south of Eagar. Even at this early date he showed a marked interest in animal and plant life as well as in geology.

According to the same writer the firm name of Woods and Potter appeared in the St. Johns Herald 38 years ago. They continued in the ranch business, their outfit occupying the range near the Petrified Forest, until Potter became Secretary of the Northern Arizona Sheep Growers Association of Apache County and later Chief of Grazing in the Washington office.

From the middle 80's to the early 90's the Cattlemen's Association of Apache County, states the article, was a big organization and Will C. Barnes was its secretary. He ran the Esperanza Cattle Company near St. Joseph. "Even in these days Barnes would occasionally have an article in some eastern magazine. He is also said to have been a great reader. Besides owning a number of books, he subscribed to a daily paper or two and several magazines, all of which he read. During those early years he mixed somewhat in politics, was a member of the Board of Supervisors in 1888, the Arizona Legislature of 1891, and later, after moving to New Mexico, became a member of the New Mexico Territorial Legislature."

The article concludes: "They were three bright men - Nelson, Potter and Barnes. I knew all three intimately. They rose on merit. They are all students and their years of practical frontier life was a great educator and made them bigger and fitted them later to make success in life."

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

A Neat Sign Board: The Teton Forest has sent the District Office a sample of a very neat board which is being used on public camp grounds and along tourist trails. Boards of this kind are made in three types - one for the black and white cardboard fire signs, one for the wolf poster, and one for the red and black "Prevent Forest Fires" poster. It consists of a board cut so as to come to a peak in the middle at the top. Two pieces are nailed on the slanting top projecting over the face of the sign to protect it from dripping water to a certain extent, and the whole thing is protected from warping by two cleats on the back.

These sign boards have been made from odds and ends left over from the sign shop. They are painted white and make a very effective appearance.

- - - - - - -

The Muse Perches: These school kid verses are certainly good. Sometimes you can't help smiling at the way things are expressed or the queer rhymes, but it is easy to see that the youngsters' hearts are in the right place, and while they may not grow up to be great poets, they certainly will be favorable to forestry and forest protection, which is, of course, the thing that we most desire.

This young lady from up near the Targhee Forest is a believer in law enforcement:

A young wood chopper went out to chop wood,
And do all the damage he possibly could.
He was planning his mischief as carelessly he did chop,
When in his mischief he was caught by a cop.
He was taken to court where he was tried,
And to try to get out of his punishment he cried,
"Please don't put me in prison," but he was put in with
a bang,
And as I passed there at sunrise, on a rope he did hang.

There seem to be some peculiar facts regarding the start of a forest fire presented in the following little ditty, but the final line has certainly got a lot of punch:

A man went in the forest to take a nap,
He happened to lay on a match.
There was a button on his overalls and that the match
did scratch.
His shoes caught on fire and then his hat,
But now he's laying where he sat.

DISTRICT 5 - CALIFORNIA DISTRICT

Tuolumne County Furnishes Fire Cooperation: Following a conference with Supervisor Wulff of the Stanislaus and State Ranger Baron, the Supervisors of Tuolumne County have agreed to place Mr. Baron on duty one month in advance of the opening of the fire season. During that time, Baron, in cooperation with citizens and landowners of the county, will burn the inflammable debris along the roads in the foothills and adjacent to the National Forest territory.

Because of the heavy spring rains the growth of grass is luxuriant and if allowed to remain after it is dried would prove to be a very great hazard.

The action taken by Tuolumne County is a striking evidence of the growing interest in the adoption of practical fire preventive measures and it is hoped that other counties may follow the lead. Los Angeles County has been doing this work through the County Forester there for some time.

Redwood Grove Named After Former Forester: Preservation of two more tracts of giant redwoods has just been announced by the Save the Redwoods League. Both are on the State highway north of Eureka and together comprise approximately 317 acres.

One of these areas, formerly known as the McMeekan tract, ten miles south of Crescent City, contains 157 acres and was purchased for $19,750. The greater part of this amount was donated by George Frederick Schwarz, the balance being paid from the treasury of the Save the Redwoods League. The grove is to be dedicated this summer in honor of Col. Henry S. Graves, formerly chief forester of the United States and at present provost and head of the forestry school, Yale University.

The second tract, known as the Roberts claim, has been purchased by the Board of Supervisors of Humboldt County for $40,000. It contains 160 acres and more than eighteen million feet of redwood timber. This tract is near the Humboldt Pioneer Memorial Grove, donated to the State of California by Mrs. Zipporah Russ of Ferndale.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Quite Talkative: During the calendar year 1924, 502 talks were given by Forest officers of D-6. Undoubtedly there were more which were not reported into the District Office. Of these 26 were given by members of the District Office and 476 by field officers. Of the 476, 291 were given by rangers and one by a forest clerk.

- - - - - - -

Increase in Road Mileage: There is some excitement at times over the invasion of wilderness areas by roads, especially on the part of wild-life enthusiasts. We have very far to go yet before we reach the standards of German forests. Of course, American conditions are totally different and always will be, but the following figures are at least of academic interest.

In German forests there is 1 mile of macadam road for every 220 acres of forest land. There is one mile of dirt road for every 105 acres of forest land. As high as 35¢ per acre of forest land is spent per year for forest roads alone.

- - - - - - -

DISTRICT 8 - ALASKA DISTRICT

Tourists from Many States Visit the Chugach: In the fall of 1923 the Chugach constructed a hikers' trail from the town of Cordova, at sea level, to what is known as the Tripod Summit, so called by reason of a U. S. L. M. erected in the usual tripod form some years ago by the U. S. Coast and Geodetic Survey. This summit is one and a half miles from town by trail and has an elevation of about 1250 feet. It affords a splendid view of Orca Inlet, Eyak Lake, portions of Prince William Sound, a number of islands, and an unobstructed view of that portion of the Copper River Delta crossed by the famous 11-mile tangent of the Copper River & Northwestern Railroad. The trail has since been extended to the summit of Mt. Eyak, which has an elevation of over 2500 feet, but only the hardy climbers go beyond the Tripod.

To obtain some data as to the use of this trail a register was placed at the Tripod on June 16 last and brought down on November 9. Between these dates 520 people registered. Observations of Forest officers justify the conclusion that about half the tourists who use this trail do not reach the Tripod, being satisfied by a short climb to some of the grassy, flower-strewn meadows at lower elevations. It is fair to assume that not less than 1000 people used this trail during its first season, which, for Alaska, is quite a record.

An analysis of the register shows the following:

Number	Home Port	Number	Home Port
15	Alaska (outside Cordova)	343	Cordova
70	Washington	13	California
13	New York	12	Minnesota
9	Oregon	5	Colorado
4	Illinois	3	Idaho
3	Texas	2	Montana
2	Louisiana	2	New Hampshire
2	Wash., D.C. (Carter and Norcross)	1	Florida
1	Iowa	1	Massachusetts
1	North Carolina	1	Kansas
1	Missouri	1	Pennsylvania
1	New Jersey	1	Oklahoma
1	Connecticut	1	Ohio
1	Delaware	1	Maryland
1	British Columbia	2	Scotland
1	Ireland	1	Spain
1	Panama Canal Zone	1	Ontario
1	Japan	1	France
1	England		

The wide distribution of "home ports" shown on the register opens up possibilities of forming a nucleus of missionaries who will help dispel the idea common to the cheechacho that Alaska consists of vast snow fields, glaciers, etc., and is populated by Eskimos and polar bears, (Carter and Norcross excepted).

The register bears a number of notations, such as "Walking splendid," "This is a fine trail, thanks Forest Service."--L.C.P.

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 20. Washington, D. C. May 18, 1925.

TROUBLES OF A WASHINGTON OFFICE MAN

By Roy Headley, Washington

Some men say, "The Service needs to train its men; let's get busy, raise a lot of money and organize some training." My trouble is not so much to raise a lot of money and organize training in a big way as it is to keep reasonably well informed about the training actually being done in the various Districts. Every now and then a living, growing organization like our Forest Service takes a kind of spontaneous surge ahead in some line, and when this happens, as is the case now in training, it is hard to keep properly informed on the developments resulting from the initiative shown in so many places. Another thing which troubles me is the need for understanding clearly the distinctive features of the different forms of training which are springing up and finding ways of letting everyone enjoy the advantage of knowing about the significant things that are being done elsewhere.

Yesterday Mr. Morrell's circular letter "D, Supervision" of April 18, 1925, brought to my desk the clear thinking on some features of administration which has been distilled by a new form of training in administrative technique tried out by District 1. Small groups of Supervisors have assembled during the winter for round-table discussions of the problems of a Supervisor and methods of dealing with them. Mr. Morrell's letter summing up the thought of these conferences is well worth reading and rereading by every man in the Service who wants to advance in the arts of administration. I wish I could think of a way to get it before every man in the Service.

Mr. Rutledge's "O-Personnel" circular of March 18, 1925. is another illuminating recent document which I wish I could get before everyone as a suggestive demonstration in one of the arts of handling personnel.

Mr. Pooler's "D-Supervision" circular of April 8, 1925, breaks new ground in the art of correlating District policy and practice with Service objectives and policy. It seems to me a great pity that we do not have some better way by which such significant forward movements can be understood and applied outside the District in which they originate.

There are big things doing now-a-days in training on the ground. Last fall I had the rare good fortune to spend a week attending an inter-forest Ranger meeting in southern Utah which had for its purpose the cultivation of personal skill in the handling of physical resources of timber and range. The complex biological problem of the forester was reduced to understandable terms, and every man present had an exceptional opportunity to develop his personal skill in the arts of marking timber, brush disposal, and the use of a simplified quadrat system for the gathering of reliable information for use of Rangers in their day-to-day management of National Forest forage resources.

Years ago District 1 did pioneer work in the movement to put forestry into the woods by gathering groups of Rangers and Supervisors' office men and putting them under the leadership of a man with a gift for explaining and demonstrating in the woods the arts of growing a maximum amount of timber by the correct handling of National Forest timber sales. Plans are taking shape for increasing the number and effectiveness of these schools of the woods.

Last winter District 5 tried out, probably for the first time in the history of the Service, some new methods of training in the elusive art of fire suppression. Curiosity as to the methods used and experience in training gained is increased by the fact that in many quarters it is not believed that much can be done by way of training in fire suppression.

District 2's spring Ranger training camp, which will convene this spring for the third season, is a school of the woods in which a leader of high scholarship and personal skill at the arts of the forester, gained from years of experience and observation, helps Ranger entrants to teach themselves the personal skill they will need after taking over the responsibilities of Ranger districts.

District 3's training camp which convened last summer for the first time is distinctly a school of the woods where by demonstration, personal performance, and observation of past practice in the management of timber and forage on the Coconino Forest the men attending were given the best opportunity we know how to give in acquiring the knowledge and personal skill they need for their work.

During the spring District 3, if the fire season does not prevent, will put to work an idea which has been taking shape in that District. Supervisors will be assembled on one of the most advanced timber sale forests to study and practice timber sale management on the ground in the woods. All our past experience has indicated how extremely stimulating and informing to everyone it is when a group of experienced men get together on the job to analyze by group thinking what has been done and formulate group conclusions as to what could and should be done. Perhaps this bringing together of seasoned men to analyze, criticise, comment, and idealize on the ground will prove to be the most fruitful developer of a forestry that is worthy of being called American.

But how are those of us who cannot participate in each significant development in training going to acquire a reasonably fruitful understanding of the things which are springing up which we do not personally see? Much of our thought and comment shoots wide of the mark because our knowledge of the splendid initiative and developments in training is so limited. Washington office men even with their opportunities for wider contacts have the greatest difficulty in keeping up with the procession. There is more excuse for District men getting out of touch, but the District man needs to know even more than the Washington man what developments are occurring outside his field of personal observation.

Can we develop the habit of using the SERVICE BULLETIN to describe the distinctive features of each new development in training and to analyze and compare methods that are springing from the genius of our different administrative units?

-------#-------

THE WEARING OF THE GREEN

By H. D. Foster, Mount Hood

Did you ever see a Forest Service uniform - a real one I mean? I did once. When you think it over you will probably decide that what you saw was part of a uniform. When a policeman or a train conductor goes off duty he puts on his felt hat and carries his uniform cap in his hand and straightway considers himself disguised. The instructions to Boy Scouts in their Handbook says if you can afford but part of a uniform get the hat, since it is the most important part of a uniform. But how many "F O's" have you met wearing a Forest Service hat? How many "uniforms" have you seen with ordinary bone buttons instead of the regulation fir tree buttons? How many uniforms are hidden under a gray overcoat and disguised with a velours hat? There are worn with the uniform, neckties of all hues from turkey red to peacock blue.

If you have finished your study course on the Administration Manual you will have discovered that the possession of a uniform is obligatory, yet it is only occasionally one sees even part of a uniform. What's the matter? Are we ashamed to wear it? It would seem so if we substitute ordinary buttons on it. Are we afraid of being conspicuous? But did you ever think that the fewer uniforms there are the more conspicuous they are?

When is a uniform not a uniform? When it has no uniformity. Let's all wear it and wear it all, and so make of it a uniform recognized and respected - or else honestly and frankly drop it and forget it. We have bashfully toyed with it for twenty years. Now that the possession of it is obligatory let's make the wearing of it at least customary and wear it with dignity instead of in disguise. Our apologetic attitude is no longer necessary and there is no cause for timidity in The Wearing of the Green.

-------#-------

RIVERS IN BOHEMIA

The Dean of Engineering at Cornell University, a keen student of philosophy as well as engineering, in lecturing to a class made the statement that, while a college education was not essential to success, it afforded a ready means of obtaining it. He ended by stating, "None of you young men should be satisfied until you are making $20,000 a year." After the class, one of the students approached him with the question, "Professor, if any of us should be capable of making $20,000 a year, how is it that you, who are recognized as one of the first engineers in the country, are only making $5,000 a year as a college professor?"

With a smile he answered, "There are rivers in Bohemia."

"And what, pray, does that mean?" asked the surprised student.

"Simply this. Money is a medium through which happiness is purchased, and is of itself valueless. Whenever a thing passes through a medium a certain percentage is irretrievably lost. The power in coal must, pass through the mediums of steam and electricity to drive the electric motor, and only a small fraction of the original energy is delivered at the pulley. It is vital that a man receive sufficient compensation to supply him with the creature comforts of life. Above that, if his happiness can only be acquired through the medium of money he has lost much. My salary provides for the needs of my family and me, and the pure pleasure that I derive from the association with young men, and with members of the faculty and from the facilities here for experimentation in the laboratories and the writing of books could not be equalled if I had a million to spend on steam yachts and expensive parties. He is poor indeed who can only obtain his psychic income from life by buying it."

This, to a large extent, explains why many men fight for an ideal and die in rags.

There are rivers in Bohemia!--Military Engineer.

-------#-------

WASHINGTON NOTES

Sharpen Your Pencils! Mr. Charles Lathrop Pack, President of the American Tree Association, has donated to the Society of American Foresters the sum of $1,000 to be awarded as two prizes for the best papers on the advancement of forestry. Each prize will consist of $500, one to be given at the end of 1925 and the other at the end of 1926. The Executive Council of the Society has decided that the prizes shall be for professional rather than popular articles.

The 1925 contribution may consist of original results of the author's work or may cover a new viewpoint or new presentation of already known facts or principles. It must, however, be concise and written in such a way as to be understood by the average intelligent lay reader. Each paper will be limited to 10,000 words in length, and may include a reasonable amount of illustrations if essential. The competition is open to all associate members, members, senior members, and fellows of the Society of American Foresters in good standing. Manuscripts must be typewritten, and must be submitted to the Chairman of the Committee, Barrington Moore, 925 Park Avenue, New York, on or before November 1, 1925. They need not be signed, but each author will write the title of his paper, together with his name and address, on a slip of paper which he will place in a sealed envelope, labeled "Author's Name" and enclose with the manuscript.

- - - - - - -

Chief Engineer T. W. Norcross and Mr. Dort left for a trip in Virginia and West Virginia. They will return to Washington about June 5.

- - - - - - -

Big Fir Trees: In response to THE TIMBERMAN'S appeal for assistance in locating the largest Douglas fir trees yet cut, two replies have been received worthy of comment. Honors in both cases are about even. One reports a slightly larger butt diameter than the other but less in merchantable log scale.

Jas. E. Wallin, with the Bloedel Donovan Lumber Mills, Bellingham, Wash., reports a Douglas fir 12 feet in diameter, with a merchantable length of 275 feet and a total scale of 105,000 feet.

A. L. Lewis, assistant general manager of the Clear Lake Lumber Company, Clear Lake, Wash., reports a Douglas fir cut on its holdings in the summer of 1923 that measured 13 feet 10 inches in diameter, with a merchantable length of 170 feet, scaling 78,200 feet. The first log scaled over 16,000 feet.

-------#-------

FOREST EXPERIMENT STATIONS

Fire Damages Turpentined Timber: An interesting example of what fire can do to a turpentined stand of virgin longleaf timber in south Mississippi has just been described by investigators from the Southern Forest Experiment Station. Until quite recently it has been the belief of many southern lumbermen that the annual grass or ground fires in the woods result in very little, if any, damage to virgin longleaf timber. In this case damage was intensified by the worst drought in the recorded history of Mississippi weather.

The timber burned averaged over 10,000 board feet per acre and had been turpentined for two years. The fire passed through in the fall of 1924, before the operator had an opportunity to rake the cupped trees and scrape the turpentined faces. A survey of the burned area (several hundred acres) three months after the fire showed 80 to 90 per cent of the trees dead, with many of the remaining live trees failing rapidly. Large numbers of the trees had actually burned down and those left standing were so weakened by the fire as to be an easy prey to attacks of insects.

Because of the heavy loss the owner of the timber was obliged to change his plan of logging and cut the dead timber at once. This cost 50 cents a thousand, or $5 an acre, over ordinary costs. The scrape remaining on the trees at the end of the chipping season was a total loss, and was valued at $2.50 an acre. An equal loss was sustained when the aluminum cups used in turpentining were destroyed.

By the time the tract can be reached by the logging operation the sapwood will have lost heavily in grade as a result of bluing, and this loss the owner figured would be no less than $20 an acre. The grand total of all these items is $30 an acre, and would have been $50 had not prompt steps been taken to salvage the destroyed stand.

- - - - - - -

Memorial Forestry Library Founded: In memory of his son, Thorbern, Mr. H. Fegraeus of Duluth, Minnesota, has given to the Forestry Club of the University of Minnesota the sum of $1,000 to be used to found and maintain a library in the Forestry Club-House, to be known as the Thorbern Fegraeus Memorial Library.

Of this sum, $500 has been turned over to the club for the purchase of books and the fittings up of shelves, while the remainder is held in trust for the club by Mr. Fegraeus, to yield $60.00 a year for maintaining and adding to the library.

Thorbern Fegraeus was a graduate of the University of Minnesota Forest School, class of 1923, and was a Forest Assistant in the U. S. Forest Service on the Custer National Forest. He was killed in an automobile accident on the Sylvian Lake Trail on May 23, 1924.--A.E.W.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Librarian Encourages Study of Forestry: Cooperation in the observance of AMERICAN FOREST WEEK has been much more universal this year than ever before. The Missoula Public Library without suggestion or solicitation from the committee or anyone in the Forest Service introduced the week by devoting the children's story hour entirely to stories of the Forest. This fact was advertised, and the attendance was unusually large. The librarian requested a colored enlargement to put up in the main reading room, together with an announcement of the week. This was put up over the desk for special books, and was also given newspaper publicity. A quotation from the President's Proclamation was placed under the picture, and twenty-one books were placed on the table for handy reference. Among these were:

The Training of a Forester..................... Pinchot
Principles of Handling Woodlands .... Graves
Our Vanishing Forests .... Pack
School Book of Forestry .... Pack
Economics of Forestry .... Fernow
Timber Depletion and the Answer ....
U. S. Department of Agriculture
Forest Resources of the World .... Zon and Sparhawk

A check made at the end of the week shows that eleven of these books are now in circulation. In addition, five books for children on the subject of forestry have been taken out by the boys and girls.

- - - - - - -

"The Forest Ranger," by W. M. Rush, Assistant Forest Supervisor of the Absaroka Forest, was published in the April number of "Hunter, Trader and Trapper." This is the second article by Mr. Rush which has been accepted by this magazine. A number of other stories by the same author have been printed by various publications, among which are "Outdoor Life" and "Popular Mechanics."

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

A Word of Praise: The following letter received by District Forester Pooler from Charles T. Vorhies, President of the Tucson Natural History Society, speaks for itself:

"We, the members of the Tucson Natural History Society, wish to express to you our high regard for Mr. Hugh G. Calkins, former supervisor of the Coronado National Forest, with headquarters in this city, now called to greater responsibilities in your office. Many of us have had occasion to come in contact with Mr. Calkins both officially and personally, and we deeply appreciate his constructive work for forestry, grazing, and the conservation of natural resources in the Southwest. As a member and officer of this Society he was always generously willing to help in its activities. While we might regret the necessity which takes Mr. Calkins away from our city, we are glad of his advancement, for we realize that the sphere of his active service will be correspondingly expanded."

- - - - - - -

Boy Scout Organization Cooperates on American Forest Week: R. C. Jones, Scout Executive for the Apache Area with headquarters at Globe, took an active part in presenting American Forest Week to the more than 400 Scouts of the Apache Council. His message in part was as follows: "Now that we are preparing to go into summer camps it is necessary that we give more attention to a phase of Scouting which makes real Scouting possible and worth while; the protection of wild life, both plant and animal. Without wild life, Scouting would degenerate into an artificial, ephemeral thing. This week, April 27 to May 3, is, by presidential proclamation, American Forest Week. It is fitting. Let us use the week and the month following to bring home to our Scouts the lesson, so tardily learned by America, of forest protection, to the end that during camp each Scout will be an asset rather than a liability to his country. By a recent cooperative agreement we are allowed free camping privileges in the National Forests in return for our assistance in fire prevention, detection, and suppression. This agreement places an obligation upon us as Scouts and Scout leaders to be missionaries for our Government in the protection of our forests. First Scout Law: A Scout is trustworthy. Second Scout Law: A Scout is loyal. Ninth Scout Law: A Scout is thrifty."

--------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Census Results: The results of this winter's census work have already been received for Nevada, although the figures are preliminary and subject to correction. These figures show some interesting facts in regard to farms in Nevada. In number they have increased about 23 per cent, while the area has increased practically 82 per cent. The value in the meantime has increased practically nothing at all. In these figures the effect of grazing homesteads can easily be read. A small decrease in the acreage of land devoted to crops is noted in the five years and a considerable decrease in wheat, the most important crop outside of hay, is noted. The acreage of hay cut on farms has also decreased since 1919. The number of horses on farms has remained practically stationary. Cattle have increased about 17 per cent. The figures on sheep are not yet available. The total value of farms decreased in nine counties, in eight of which the decrease took place in spite of an increased farm acreage. The figures seem to indicate a growing importance of livestock in Nevada coupled with a decrease in crop producing areas. The poor showing in many respects should not be interpreted too pessimistically, however, because the grazing homesteads have done much to upset the previous figures on farms in that State.

- - - - - - -

Too Good Protection? C. L. Forsling is spending a few days in the District Office. He states that one of the most remarkable things that he noted at the Great Basin Experiment Station was the rapidity with which the snow has melted. On March 15 there were 61 inches of snow with a water content of about 15 inches. On April 25 there were 25 inches of snow with a water content of 8 inches, 1.6 inches of this moisture falling during the recent storm. Although the precipitation was average or above for the winter, the rate at which it has been melting makes it look bad for this season. The one peculiar thing is that there is practically no run-off. Although the snow has been melting quite rapidly no high water has come down for irrigation, and the people are pretty apprehensive about the water situation. Several of the local residents with whom Mr. Forsling talked said they laid this to the range protection which the watersheds have had. The range has grown up with brush and other vegetation which impedes or practically eliminates run-off, and their solution is to put on sufficient sheep to reduce the ground cover. We cannot agree with them fully in this, however.

Mr. Forsling states that at the present time forage development is approximately ten days ahead of 1924 and not less than two weeks ahead of what is considered to be average.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Southernmost Big Tree Grove: The Deer Creek grove of Big Trees has long and properly been regarded as the southernmost grove of Sequoia Washingtoniana. However, evidence has come to light that leads us to believe that there may have been a living grove some three miles south of the Deer Creek area at a comparatively recent period.

Last summer at the Dooley and Guernsey Hill, while digging a well, Mr. Dooley struck a log, twelve feet underground. The log was about three feet in diameter, and though discolored was in an excellent state of preservation. Dooley suspected it might be Sequoia, but, due to the discoloration and to the fact that there was no Sequoia near, was uncertain. He therefore brought a piece of the wood to Porterville for identification. We believed it to be Sequoia, but for verification sent a specimen to the Forest Products Laboratory. It was identified positively as Sequoia by the Laboratory, but they were uncertain as to whether it was the Coast or Sierra species. We can, however, be fairly positive that it is Sequoia Washingtoniana. This location is typical Sequoia country, being a cove, well watered, about 5,800 feet elevation and site one locality.

Down Sequoia trees practically never rot, even though they are in contact with moisture and under other conditions conducive to decay. We have no index of the time this tree may have been alive. There are standing yellow pines four feet in diameter growing close to where this log lay, twelve feet underground.--F.P.C.-Sequoia.

- - - - - - - -

How Wide Should We Build Firebreaks? On June 27, 1395, red hot cinders from a fire in San Francisco were carried to Yerba Buena (Goat) Island, 1-1/2 miles distant across the Bay, starting a brush fire that swept up the slopes of the Island and destroyed many valuable hand-planted trees and shrubs. If a fire will jump a break of 1-1/2 miles of clear water, how wide should we build our landbreaks to hold the "Red Terror?"--T.W.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Mac's "Golden Leaves." Supervisor Macduff of the Cascade has originated seven "Leaves of the Golden Rule," which he is using in his fire prevention campaign with young folks. They read as follows.

> "Leave no fire - not even a spark.
> "Leave a clean camp for the other fellow and the next time.
> "Leave streams, springs and lakes clean and undefiled.
> "Leave guide signboards, camp benches, tables, fireplaces and other improvements at camp grounds and forest unmutilated.
> "Leave the flowers, flowering shrubs, and ferns along the roadside and in camp grounds for others to enjoy, too.
> "Leave a few fish, a little game for the other fellow. Next year there'll be more for both of you if you take no more than you really need this year.
> "Leave unused no opportunity to teach others to be careful with fire in camp, in farm slash burning, in sawmills and logging."

-------#-------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 21. Washington, D. C. May 25, 1925.

TECHNICAL QUALIFICATIONS AND EXAMINATIONS

By C. P. Stein, Gallatin

The Forest Service has slowly passed through its formative stage and is now solidifying into what may be its standards of final requirements as to personnel and administration. The present personnel is made up of two general classes: the so-called practical man and the so-called technical man. One represents the uneducated, as for as higher learning is concerned, the other the man who has passed through the mill of elimination of the grades, high school, prep. school, and college - where hundreds of his classmates have dropped out by the way - and has finally been admitted to the Service through the channels of competitive examination. He is usually a well-balanced man and enters the Service equipped and ready for most emergencies.

The first class mentioned, or practical man, usually enters the Service with but scant knowledge of forestry and with a basic education, ranging from the eighth grade or less to a finished high school course, or with varying grades between. The educational potentialities of this class of forester is for the most part unknown. The large majority were unfortunate in their childhood and boyhood days in not having the proper educational advantages, although there are some, as might be expected, that had the opportunity been afforded would have been eliminated before the final goal was reached. This general class of forester enters the Service as Rangers and broadens in knowledge by application, contact, and home study. These men, not having been trained in how to apply themselves to study, usually find such training a most difficult task. No one realizes the need of a further course of training along some line than they, but these men usually do not, for lack of proper guidance, know what, where, or how to apply themselves in order to get the most out of home study.

So far our study courses have been inadequate, disconnected, and too localized to be of any particular benefit or interest. What we need is a broad, thorough, and complete course in forestry, so arranged as to extend over a three or four-year period of study . This class of forester is hungry for study and clamoring for guidance. In my own pursuit of dame Goddess knowledge, I read everything from the "Koran" to "Queen Moo and the Egyptian Sphinx." Out of a total of six permanent Rangers on this Forest, three have during the past 15 months taken a private course of study. One took radio and electricity, another landscape gardening, and a third, public speaking. Out of a total of five men in the Assistant Ranger class, two have attempted self-preparation. One took up radio and the other attended the university, taking the short course in forestry. It is true that any line of study or reading is beneficial. One can study Sanskrit or the language of the Incas and be benefited to some extent thereby, but such reading or study will not carry him very far in his chosen profession.

The course of study finally to be decided upon should not be too much localized but should cover the entire scope of forestry. It should not be termed semi-technical or a course couched in easy language for the non-technical man. Such a course should be so broad and far-reaching in its scope that when the non-technical man has mastered it, he will be able to face all forestry problems with the same degree of confidence possessed by any other technical forester. It is, of course, true that not all non-technical men will take such a course of study and many that start will never finish. There, however, will be a large number that will carry the study through to completion, and naturally such men should be given the rating and full consideration of any other technical man; all things being equal.

This course should be so arranged that it will call for extensive reading. Questions should be carefully worked out and arranged in Silviculture, Forest Management, Protection, Dendrology, Products, Range Management, Forest Engineering and Lumbering, Sawmilling, Economics, Planting, Administration, Finance, and Office Management. It should familiarize the student with the technical and common names of most trees and shrubs, including hardwoods as well as conifers, and the range and distribution of each. It should deal also with practical questions in forest administration and office procedure in the handling of forms, etc. A complete list of books to be studied should be furnished, as well as a full and complete line-up of just how to study and to proceed with the work. When the student feels that he is ready, he should be given the final examination, preferably at the Supervisor's office. If he passes this examination it should qualify him for any of the higher positions in the profession of forestry on absolutely equal terms with any other man in the Service.

After the course is carefully worked out and arranged, it should be prepared and sent out to all members of the Service who do not have a college degree in forestry. The taking of the course should not be made compulsory, but should be encouraged. Supervisors should carefully explain to all members of his organization the need for such self-preparation in order to properly advance, and, where the course is undertaken, give every assistance and encouragement possible. The individual purchase of certain books and bulletins would be necessary. A much more general use of the forest library should be encouraged and libraries should be enlarged.

PROGRESS IN FIRE CONTROL

By Roy Headley, Washington

Every year in connection with the analysis by Operation inspectors of fire control in the Districts we use a page of fire statistics showing by Districts the annual average for the last five years of (1) area burned over, (2) cost of fighting fires, (3) damage, (4) number of fires, (5) number of fire guards, and (6) number of man-caused fires.

Comparison of the sheet used during last season with the one which will be used during the coming season brings out some interesting things, one of which is shown in the following table:

Districts	Average per cent of gross area burned over annually during	
	1919 to 1923, inc.	1920 to 1924, inc.
1	1.26	.15
6	.32	.23
5	.79	1.04
5 (except 3 southern Forests)	.43	.72
5 (3 southern Forests)	2.54	2.59
4	.14	.03
3	.09	.09
2	.10	.08
7	2,02	2.16
6	.01	.02
All Districts	.46	.30
Districts 1 to 7	.52	.33

The striking thing brought out by these figures is the influence of the occasional year of heavy losses on records of accomplishment in fire control. District 1's average loss drops from 1.26 per cent to .15 per cent because in the right-hand column 1919 drops out of the reckoning. District 5 goes from .79 per cent to 1.04 per cent because losses in the season of 1924, the worst the District has ever experienced, pulled the five-year average up to that figure.

Could anything emphasize more strongly the fact that our fire plans and practice must drive for a system of fire control which can quickly and fully adapt itself to the extreme bad, the normal, or the easy season? One season of bad losses may undo years of successful protection during normal seasons.

There are many encouraging things in the foregoing tabulation. Consider, for example, what it means when for a full five-year period a District keeps its average annual loss of area down to .15 per cent, as District 1 has done for the five-year period ending with 1924. This is within .05 per cent of the goal the Forester has set for the entire area of all the National Forests. When one of our bad fire Districts comes this close to the goal set for all National Forests, that District is certainly making its full contribution to the desired Service record. The thing District 1 has to worry about is whether it can hold its record of average annual loss down to the .15 per cent attained for the past five years.

Consider the drop in average annual loss shown by District 6. Consider further that District 6's record has been consistently low compared with the other two bad fire Districts; 1920 to 1924, inclusive, being the first five-year period in which either one of the other two Districts has surpassed District 6 in low average annual loss.

Consider the records of Districts 4 and 2 showing decrease of average annual loss in acres.

Consider most of all the Service record which shows that for the latter five-year period the average annual loss has dropped to .33 per cent as against .52 per cent for the five-year period 1919 to 1923. It occurs to me that this is probably a pretty fair measure of the progress we have made in fire control during the past four or five years. Each one of the 2-year periods includes one season of extremely heavy losses. May we not legitimately consider that the better showing we are able to make in the five-year period, including 1924, as against the one including 1919, represents roughly the progress the Service has made in strengthening National Forest fire control?

The cost of fighting fires for the five-year period 1919 to 1923, inclusive, as compared with the five-year period 1920 to 1924, inclusive, makes a distinctly better showing for the latter period. The average annual fire fighting cost for the Service is $1,091,000 for the first of the two periods, and this drops to $925,000 for the average of the second period. This is due chiefly, of course, to the fact that total fire-fighting costs for 1919 were $3,039,000, while the total for 1924 is only $1,715,000.

Average damage for the first of the five-year periods is $1,[illegible], but for the second five-year period this is reduced to $5[illegible]. It is necessary to add that our damage figures carry so little confidence that none of us feel like using them except in a very broad general way.

Whatever we have accomplished in strengthening fire control has been done without much aid from increase of guards. In 1920 we had a total of 1939 fire guards, while in 1924 our figures showed a total of 2,291.

(To be continued)

FORESTER POSITION OPEN

State Forester R. S. Maddox, Nashville, Tennessee, is in the market for a technically trained forester, with experience in forest fire prevention and control. He offers a salary of $2700 per annum, with reasonable but indefinite prospects for advancement. He wants this man as a member of his staff to take charge practically, if not wholly, of the forest fire prevention work throughout the State. The new forester will have direct charge of 2 million acres, with some supervision of two other areas in the Cumberland and Smoky Mountains, the latter areas being in direct charge of other technically trained foresters. Headquarters would presumably be at Nashville.

Any qualified Forest officers interested in this position should apply directly to the State Forester.--J.E.S.

DISTRICT 1 - NORTHERN DISTRICT

Hoo-Hoo Club Observes American Forest Week: The Hoo-Hoo Club at Spokane put on a most effective American Forest Week program. The club was instrumental in bringing James H. Allen, Snark of the Universe, from St. Louis to make a series of addresses. He was the principal speaker at the weekly meeting of the Chamber of Commerce and the Hoo-Hoo Club. He also spoke at both the high schools and broadcast from radio station KFPY.

Programs were conducted in all of the grade schools, and in several the exercises amounted to a field day with tree planting. The trees were furnished by the school authorities, by the Hoo-Hoo Club, and by the Forest Service. The mayor issued a proclamation, and on Monday morning the fire department paraded with its big fire truck decorated with special streamers announcing the week. A window display contest with prizes was put on, and special dispensation was secured from the city council for distributing radiator tags, stickers, etc., by the Scouts and Camp Fire Girls.

Special writers were assigned on both the morning and afternoon papers, so that the amount and quality of newspaper publicity was better than ever. President Upham of the University of Idaho and F. G. Miller, Dean of the Forest School, were among the speakers during the week. Signs, posters, buttons, newspaper ads, and special displays were so much in evidence that it seems doubtful if there could be anyone left in Spokane who does not know about American Forest Week.

- - - - - - - -

G. P. Speaks: In reading the SERVICE BULLETIN for April 13, I see that District 4 is priding itself on its reduction in personnel, which reminds me of a statement which I heard Gifford Pinchot make back in 1907.

There were several of us gathered in the Supervisor's office in Kalispell, and we had been discussing the relative value of the different members of the Service to the organization when Mr. Pinchot said, "You can fire me, you can fire all of the Washington office, and furthermore, you can fire the Supervisors, but so long as you have the Forest Ranger you have a Forest Service, but if you fire the Forest Ranger and keep the rest, what have you?" After a pause he answered, "Nothing."--J.H.C.

- - - - - - - -

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Rocky Mountain Planting: The planting project for this spring on the City of Trinidad watershed, on the San Isabel Forest, had to be called off because of the drought. When this area was examined, about May 1, the snow had gone off and the ground was dry to a depth of 9 inches. This is in marked contrast with conditions which prevailed last spring, when it was impossible to reach the planting site until June 10 because of deep snow.

A portion of the trees that were scheduled for planting on this project was shipped to the Marshall Pass project on the Cochetopa Forest, and the balance will be planted on the Fruita Division of the Grand Mesa Forest. Experimental planting was started on the Fruita Division, which is also the watershed for the town of Fruita, last year, and the town is so eager to have the area planted that they are cooperating to the extent of paying half the cost of planting.

- - - - - - - -

Tip Moth Causes Damage in Nebraska Forest: During the past several years, the pine tip moth has been doing increasing damage to the Nebraska Forest plantations. There are some points in the life history of the insect on which entomologists are not certain. It is believed that the tip moth flies quite early in the season and lays its eggs in the seedlings before they leave the nursery. For this reason it will be necessary to secure some fumigant which will kill the eggs as well as the insects before making shipments of stock from the nursery. It then may be arranged to plant the clean stock in sections of the Forest remote from present plantations.

In the meantime, it is proposed to secure parasitized material from Ft. Bayard, New Mexico, at which point very effective parasites are known to exist. These parasites will be collected, sent to Halsey, reared, and liberated.

It is believed that the tip moth was introduced on the Nebraska Forest some 20 years ago with forest pulled jack pine seedlings shipped in from Minnesota. Evidently this shipment contained scarcely any parasites, so that the tip moth developed to an extent rarely attained in any Forest.

DISTRICT 3 - SOUTHWESTERN DISTRICT

Land Exchange Passes First Annual Report Period: The first annual land exchange statistical report has been completed for D-3. It shows 41 applications received during the calendar year 1924, 25 of which were in New Mexico. The total area offered was 131,000 acres, and of this reports have been completed and approved by the Secretary of Agriculture for 10 cases covering 17,807 acres of offered land valued at $34,184. In exchange it is proposed to give up 6,070 acres of land within the National Forests valued at $9,356 and some $[illegible],000 worth of public domain. Practically all of the remaining land covered by application during the year has been examined in the field and exchange reports completed, but many of these are still in process of negotiation with the owners to determine satisfactory values and conditions of exchange.

- - - - - - -

Men and Methods Make the Difference: A table of calf crop percentages prepared by Director Culley of the Santa Rita Range Reserve tells a story of unusual interest. A certain cooperator ran cattle on the Range Reserve from 1916-1919, four years. His calf crop percentages based on breeding herd ran

70.3 in 1916, 67.3 in 1917, 60.9 in 1918 and 52.4 in 1919 and an average of 61.8 per cent for the four-year period. He sold his outfit to another man who took up the cooperation beginning with 1920. The new cooperator, a real cattleman, with the same cattle, same range, and same general conditions obtained an 84.9 per cent calf crop in 1920, 71.5 per cent in 1921, 66.2 per cent in 1922, and 77.6 per cent in 1923. His average for his four years was 76.0 per cent against the 61.8 per cent of the former cooperator.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Jackson Hole Courier Speaks on Conservation, (Excerpt from editorial in April 23 issue): "Wanton waste has been the American policy ever since Jamestown was settled way back in 1607. This continent has ever been a land of vast natural resources - too great our fathers thought to ever be depleted. Today we gut the remnants. Tomorrow?

"Europe found out years ago that nations cannot endure without conserving the resources vital to the public welfare. Today that fact is being made plain to the American mind. But the question is: How much of the lesson has the American mind grasped? Therein lies the danger. What is the meaning of conservation, to what point can conservation be practiced without waste? According to the old editorial unabridged dictionary conservation means the act of preserving or protecting, the keeping in a safe or entire state. Then is it not possible that conservation can be carried to extremes? The conservation policies of the Forest Service vary somewhat from the old definition of the word. The Forest Service means by conservation 'use consistent with a sustained yield and therefore a continuous supply.' They protect but they do not preserve the forests in an entire state. They believe that mature trees should be used but always they leave the best trees for the reseeding of the forested areas, they protect the immature trees. That to our mind is true conservation. That method to our minds means a permanent lumbering industry."

- - - - - - -

Elks Interested in Forest Protection: The Elks in Ogden have become much interested in forest protection and intend making it one of the big objectives of their year's work. Mr. E. T. Spencer, their secretary, is much interested in forestry and is a member of the Hoo-Hoo, the lumbermen's organization. He is endeavoring to get the Elks nationally interested in forest preservation and is much encouraged by the success he has had so far. The Elks Convention this year is at Portland and many are going overland in cars, under which circumstances they will come into close contact with the forests first hand, and interest should not be difficult to arouse.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Governor Signs Fire Prevention Act: Declaring that the legislation is the best ever enacted to prevent forest fires, Governor Friend W. Richardson signed Senate Bill No. 362 on May 1, making drastic changes in the law giving the State Forester power to protect California's forests from destruction by fire.

The new law regulates the burning of timber and forest cover, increases the authority of the State Forester in controlling fires in forest areas, and prohibits the throwing of lighted cigars, cigarettes, and matches from a moving vehicle. Violation of the law is made a misdemeanor.

- - - - - - - -

Students Win Prizes for Forestry Essays: Three students in the Division of Forestry at the University of California are winners in the annual essay contest, sponsored by Charles Lathrop Pack, president of the American Tree Association.

The winners are: First prize of $50, Amihud Grasovsky, for his essay on, "Save the Forests."

Second prize of $25, Kenneth McLeod, for his essay, "A Jack of all Trades - the Forester."

Third prize of $15, Henry J. McFarland, for his manuscript, "Forestry as it Affects the General Public."

The committee of judges consisted of C. W. Wells of the Department of English; P. G. Redington, U. S. Forest Service; and Professor E. Fritz of the Division of Forestry of the university.

- - - - - - - -

DISTRICT 6 - NORTH PACIFIC DISTRICT

Air Patrol for 1925: There will be Forest patrol this year! This is the first special appropriation for airplane patrol that the Forest Service has had since 1922.

Plans for this year provide for the usual base at Eugene, with two planes and three fliers to each plane. This provides reserve pilots for the first time since the establishment of air forest patrol five years ago.

Five bases are tentatively planned, one at Eugene, one at either Vancouver Barracks or Camp Lewis, two in California, and one in northern Idaho.

Commenting on forest air patrol as a training factor, Major C. C. Moseley, commanding officer and instructor of the air forces of the California National Guard, said recently: "Forest patrol work embodies the finest type of training for pilots of the air service and would be ideal for national guard units. It embodies everything required in military observation, mapping, altitude flying, aerial photography, radio and day and night reconnaissance."

Major H. H. Arnold as heretofore will be in general charge at the headquarters of the 9th Corps Area.

- - - - - - -

DISTRICT 8 - ALASKA DISTRICT

Boats to be Chartered for the Chugach: The charter of boats for work on the Chugach for the 1925 field season will cost the Service between $4000 and $5000, which equals about one-fourth the purchase price of a suitable boat. This includes charter of bare boat only, and not the cost of operation.

One boat - the Buckeye - will be used for a period of five months by a timber survey crew for work on the west side of Prince William Sound. This job will be handled by Technical Assistant H. J. Lutz, recently assigned to the Chugach.

In addition to the Buckeye, it will be necessary to charter a boat for from three to four months for general administration work on Prince William Sound.

One of the 1925 objectives of District 8 is the purchase of a suitable boat for the Chugach. This is to be financed in whole or in part by exchange of the Hiawatha, which was transferred to the Service by the Navy Department at the termination of the war.

- - - - - - -

Ticket, Please! Effective March 30, the Alaska Railroad will charge the Forest Service and other Government branches for passenger and freight services,- first broadside delivered at our work plans.--L.C.P.

- - - - - - -

Service Bulletin
U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 22. Washington, D. C. June 1, 1925.

IS IT TRUE ?

By W. N. Sparhawk, Washington

Is the Forest Service getting off on the wrong foot in some of its economic propaganda? Are we sure that the horse is always pulling the cart?

Within the last few years one of our most cherished and widely disseminated pieces of ammunition has been the assertion that increasing length of haul raises the price of lumber. We say that prices are now rising still further because we are getting large quantities from the West Coast, and that the American people are paying a total freight bill of $250,000,000 to $300,000,000 which could be avoided by growing the timber nearer the consumer. Do we expect people to believe it?

The following quotation from a recent issue of the Southern Lumberman, discussing the stocking of Maine and New Hampshire yards with Douglas fir, gives food for thought:

> "This is one instance where a product was put over a new market on price alone. The fir sellers seldom waste any time talking quality of service; their appeal to the lumber retailers is based on the chance to buy for less money than the cost of competing lumber lines. . . . When the first retail yard in a district starts stocking fir it means that all the others must soon follow suit or meet fir prices with their higher cost eastern spruce or southern pine."

Does that sound as though paying freight from Oregon is raising lumber prices in New England? Is it at all certain that New England would have cheaper lumber if she grew it at home? That there still is home-grown timber in northern New England is evidenced by the recent statement of the President of the Maine Lumber Manufacturers' Association, that

> "Competition of southern pine, western pine, and Pacific Coast pine and fir is so keen that there is little if any profit in the manufacture of hemlock, spruce, or the better grades of native pine. The present situation and future outlook for the manufacture of wooden boxes and shook is very bad. . . . At present the supply far exceeds demand and conditions not only warrant a further curtailment of production, but demand it."

Is it not just possible that high prices are the cause, and not the effect, of the entrance of long-haul lumber into the eastern market? Neither the Lake States lumberman who moved to the South, nor the southern lumberman who transferred to the West Coast, added the extra freight cost to the price of lumber he sent to the general market. Competition doesn't work that way. He moved, rather, because he could buy timber or make lumber enough cheaper in the new region to offset the freight charge and still deliver lumber to the consumer at as low or lower prices than lumber from nearer centers of supply. The invasion of the market by timber from the more distant forests, instead of increasing prices, has kept them down!

Is it, then, the consumer who suffers because of the high cost of transportation, or is it the owner of stumpage in the more remote regions? Doctor Compton has recently shown that stumpage comprises only 15 per cent of the total manufacturing cost of Douglas fir, as against nearly 50 per cent for old-growth southern pine and 65 per cent for Minnesota white pine. It is probably 60-70 per cent for second-growth pine in New England. The West Coast man can afford to sell his virgin stumpage for less than its intrinsic worth because he got it cheap, but the story will be different when he comes to sell second growth.

Supposing the Northeast should follow our advice and grow all the timber it needs. Would the Eastern consumer pay any less? Not a chance, unless all the forests would be handled by the public and on a charity basis. Northeastern stumpage values are not now so high as to yield excessive profits on timber growing. The consumer would continue to pay his $300,000,000 or more, but the stumpage owner would get most of it instead of the railroads. The West, however, could not begin to utilize all the timber its forests are capable of producing unless its present relatively high consumption should be four times as great as now. Unless the surplus could be disposed of profitably through exports, the result would be that the greater part of the West Coast forests, potentially among the most productive in the world, would not be utilized systematically for timber growing because stumpage values would always remain below the cost of growing the timber.

What's the answer? Just this: All of the forest land in the States north of the Potomac and Ohio and east of the Mississippi, with intensive management, can produce less than 12 billion board feet of timber according to the estimates in the Timber Crop Report, and less than 5 billion feet would be softwoods. The same region requires at present more than 14 billion feet of sawed lumber alone, of which nearly 11 billion is softwood. It seems reasonable to expect, therefore, that stumpage values in the East will tend to rise gradually until a large part of the forest land is handled intensively, and will pull up behind them the values of Western stumpage until that, too, covers the cost of growing timber. The existence of large Western supplies, however, is likely always to serve as a check on abrupt rises in Eastern stumpage. Because of the freight differential and because manufacturing costs for Western second growth will probably be as high as in the East, Western stumpage can never reach the level of Eastern values unless the West can increase its own consumption from 6 or 7 billion to 24 billion board feet a year. Can you do it, D-5 and D-6?

* * *

THE UNPLEASANT ENDING TO THE STORY OF PROGRESS IN FIRE CONTROL

By Roy Headley, Washington

Such progress as we have made in fire control has been in pre-suppression and suppression rather than in fire prevention. Total number of man-caused fires for the Service in 1924 was 4,826 - larger than for any other of the five years 1920 to 1924, inclusive. In 1919 the total number of man-caused fires was lower than in 1924, the figure being 4,603. The average annual number of man-caused fires for the Service for the period 1919 to 1923, inclusive, is 3,803, while the five-year period 1920 to 1924, inclusive, shows total man-caused fires numbering 3,879.

Everyone knows that the best handled fire is the one that is kept from starting. Realizing as we all do that our fire prevention has been weak as compared with pre-suppression and suppression, we have carried on extensive fire prevention work, particularly during the past five or six years. No one would claim that everything has been done that should have been done, but it is disconcerting to find our figures on man-caused fires showing so little effect from the fire prevention effort that has been made.

It is true that the number of people using the Forests has increased enormously in recent years. One can take the view that we must have greatly reduced the number of man-caused fires per thousand people using the Forests, and that we have therefore made important progress in fire prevention. Such a view seems to me to be illusory and unsound. Our job is not to reduce man-caused fires per thousand people using the Forests; it is to reduce man-caused fires. Unless we can do this we will probably never be able to put fire control on the National Forests on a satisfactory basis, because in bad seasons or in bad periods during the normal season a certain proportion of fires that start are going to be humanly impossible to control until after they have burned enough acres to ruin our record and interfere seriously with the production of timber.

If, according to its habit, history repeats itself, we will never find any cure-all for fire prevention any more than we have ever found a cure-all in pre-suppression and suppression. In order to reduce man-caused fires we will doubtless have to redouble the efforts and intelligence we have put into such prevention methods as we have been using and supplement these by all the auxiliary lines of fire prevention our ingenuity can suggest.

-------#-------

NEW POSITION OPEN AT ANTIOCH

Antioch College, Yellow Springs, Ohio, has recently added to its curriculum a course in Retail Lumbering. They are seeking an instructor to conduct this course of study and offer an initial salary of $4,000.

The new member of the faculty will have the title of Director of Research in the Retail Lumber Industry. His duties will be to outline and teach courses in the retail lumber field; to study the retail lumber business in the State, and cooperate with other colleges in supplying research facilities and personnel for the solution of these problems. He should be a man of personal quality, who has had some business success and experience in the retail lumber business, and should be interested in young men and their problems. It is preferable, although not imperative, that he be a college graduate.

Persons interested in this position should write Dean Philip C. Nash, Antioch College, Yellow Springs, Ohio.

-------#-------

WASHINGTON NOTES

Trees as Memorials: While the custom of planting trees as memorials gained impetus in this country following the World War, it is a matter of fact and of interest that the oldest planted tree on record in the world happens to be a memorial tree. This is the Bo Tree planted in 245 B. C., in honor of Buddha, the great teacher and philosopher. It is a member of the fig genus. This particular tree was taken as a cutting from the original tree under which

Buddha received that sense of mental clarity from which grew and radiated the vital spirit of the great religion that bears his name. The original tree, which was always held in peculiar veneration, is gone, but the planted cutting has been carefully tended by Buddha's disciples these 2,100 years.--Pa. Dept. of Forests & Waters News Letter.

- - - - - - -

Was Papa's Name Methuselah? An inquirer asks: "Will white oak posts last longer cut in September? An old man told me they would last 100 years if cut in September and not trimmed until the leaves dried. He said he knew because his father tried it twice in his lifetime."

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

State Cooperates in Expansion of Michigan Nursery: The authorized production of the Beal Nursery, on the Michigan Forest, has been 1,500,000 trees, or enough to plant about 2,000 acres. Last fall the output was about 2,400,000 and an area of 3,160 acres was planted, assistance being given with funds from other planting projects. As a result of last fall's experience, it is believed that through greater efficiency in all operations a 3,000-acre program can be carried out on the Michigan Forest with the same average allotment to the District. However, the nursery is capable of producing more seedlings and a large production helps materially to reduce the cost through reducing the per thousand overhead charge.

Associate Forester Sherman, while in Michigan recently, arranged with Mr. T. F. Marston of the Public Domain Commission to have the State take off our hands any surplus of seedlings above 2,500,000 for our 3,000-acre program, for which there are no funds to plant. The State will deposit money to cover the actual cost to the Government of producing these 2-year-old Norway pine seedlings. As a result of this arrangement, seed sowing at the Beal Nursery this spring is on the basis of producing 3,000,000 seedlings for delivery in the fall of 1926. Additional land will be acquired for nursery purposes shortly, so that it is expected that a 4,000,000 production can be secured by the fall of 1927.

The 1926 Agricultural Appropriation Bill contains a clause authorizing the purchase of additional land adjacent to the present nursery site, the cost not to exceed $900. The nursery is located at the edge of the town of East Tawas and is connected with the city water system, so that no pumping plant is necessary. Furthermore, an expensive group of bunk and mess houses for the accommodation of laborers need not be provided.

Two-year Norway pine seedlings, including the distribution charge, cost $1.16 per thousand last fall.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Lightning Playing a Pre-Season Engagement: A number of the Forests are reporting severe lightning storms with consequent fires in unexpected places. It is usual for the number of man-caused fires to rise at this season because of the increased use of the Forests by vacationists, and then for the man-caused fires to give place to lightning fires along about July 1. Lightning this year, however, seems bent on getting in some advance acting along with man. Sort of a two-part tragedy so to speak.

- - - - - - -

P + S + D

Dist. 3

Year	No. fires	Cost per Fire			
		Prevention	Suppression	Damage	Total $
1921	434	119°	86	28	233
1922	899	50°°	38	38	126
1923	532	61	30	9	100
1924	808	48	26	10	84

° From allotments for 1921.
°° From FA cost records - 1921 not available.

- - - - - - -

Big Copper Company Uses Forest Products: The Ray Consolidated Copper Company uses about 6,000 gallons of high grade pine oil a month in its large mill at Hurley, New Mexico. Pine oil is employed to create froth in the flotation process of extracting copper and other metals from ore. The Ray Company has shown strong interest in forest conservation.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

The Weiser Holds a Fire Meeting: According to Mr. Thompson, the fire meeting recently held at Starkey Hot Springs on the Weiser Forest was a splendid success and a great deal of enthusiasm and spirit was shown. He says that according to many Forest officers the wonderful thing known as "the old Service spirit" is a very delicate flower which flourishes only when the field officer is allowed to work on his own initiative and do things in his own way, and that standards, objectives, and systemization are the things that will surely make this wonderful flower dry up and blow away. The Starkey meeting was sufficient proof that this viewpoint is the clearest nonsense, for standards, objectives, and all of these depressing things were shoved out onto the Forest officers present in big doses. They took it all with enthusiasm. An interesting indication of the real vitality of the meeting is shown by the fact that nobody spoke from notes. It was all offhand extemporaneous talk because everyone was full of his subject - like the old preacher who talked on the Devil.

Perhaps as much enthusiasm was aroused over map fire problems as anything else presented at the meeting. A number of theoretical fires were started on maps and all pertinent facts regarding wind, humidity, size of the fire, ground cover, men available, equipment, etc., were given to the men who then went to work to solve them. A fine lot of discussion resulted. It was proposed that Rangers familiar with certain actual fires prepare maps and problems of this kind for use of officers on other Forests unfamiliar with the particular fire question. Their solution would then be compared with the actual steps taken in fighting the real fire on the ground. One fire problem was considered on the ground and brought out a great deal of discussion.

District Forester R. H. Rutledge, in speaking to the group, pointed out that in District 4 most of the jobs have a rather balanced priority - one being more important here and another there - but everywhere, fire problems universally had a distinct priority and should engage the first attention of every Forest officer.

- - - - - - -

Kaibab Deer Again: S. B. Locke has returned from Kanab, where he spent a couple of weeks in preparation for spring work on the Kaibab deer proposition. A number of Kanab citizens have been interested in raising fawns and are planning to go out onto the Forest very soon with dairy cows and to establish a number of camps of sufficient size to rear 100 to 200 young deer fawns. They will care for these for approximately four months, feeding them on cows' milk and some grain and a little roughage. The Forest Service has entered into contracts with a number of these individuals to purchase a certain portion of the number raised for $20 a head, and an option is held on the balance. Most of the fawns are born from May 15 to July 1.

Investigations of the deer herd this spring indicate that practically three-fourths of last year's fawn crop has disappeared during the winter. In one bunch of 81 deer, only five were last year's fawns. Starvation and predatory animals have doubtless accounted for most of them.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Forest Week As the San Luis Obispo Herald Sees It: Of the many editorials in California papers on American Forest Week the following from the San Luis Obispo HERALD is so outstanding that it is here reproduced.

"The Forest Service of the United States Department of Agriculture is sponsoring the observance of American Forest Week, which began April 27 and ends May 3. This is an event that differs from many of the special days and special weeks urged on the public, because this particular observance has its direct effect on the lives and well-being of every man, woman, and child in the United States of America, and especially on the lives of residents of California and the Pacific Slope.

"On the proper care and protection of the forest depend many things. First, the very moisture in the earth, nurturing the fruits and vegetables that sustain human life, feeding the cattle that supply foods and raw materials for clothing, is dependent on the growth and preservation of the forests. Denuded areas lose their value for water conservation, and where drought comes, destruction follows.

"Again, the guarding of the forest against destruction by fire, or the even worse destruction of wasteful and reckless lumbering, is a service of the foresters, and this helps to guard the source of materials for human habitations, and for the many structures in which wood and lumber are essentials.

"The beneficial forms of wild life, sheltered by the forests, thrive under the kindly protection of the Service, and take their little known but necessary part in the warp and woof of events that weave the pattern of human existence.

"It doesn't matter whether we live where we can see at first hand the beauties and glories of the tree-clad hills, or whether we live in roaring cities far from falling leaf or scent of balsam. Either life is greatly dependent on the forests and their products, and every citizen of America, as well as every alien within our land, should feel a personal pride and responsibility in aiding the Forest Service in its work of preservation and regulation.

"In the Forest Service, also, Americans have an example of self-abnegation in public service. The virile men who do the real work of the Service have an almost fanatic faith in forestry. They are ill requited in money and they cling to the Service in most cases because they are lovers of the great outdoors, students of forestry, and patriots in a little known but most important public service."

DISTRICT 6 - NORTH PACIFIC DISTRICT

First Forest Fire: The first fire of the 1925 season is reported from the Wenatchee, having occurred on March 22, in Yaxon Canyon. Ranger Chartrand received a report of this fire at 12.25 p. m. Sunday, March 22, and started for it at 12.27 p. m., reaching it at 12.45 p. m. The fire was evidently caused by someone dropping a match near a fallen tree. The area burned over was approximately 100 square feet. May all the others this season be as small, as quickly reached, and may they result in as little damage!

- - - - - - -

State Gets Joy: Geo. C. Joy, chief firewarden of the Washington Forest Fire Association since 1913, was recently appointed State supervisor of forestry for Washington, succeeding Fred E. Pape, who had held office since 1916.

The duties of the supervisor of forestry include fire law enforcement and control of burning operations; reforestation studies; administration of the State-owned forest lands; and handling of the Clarke-McNary act cooperation. Since Mr. Joy has always been strong for cooperation, it is felt that we may look forward to an effective and satisfactory State forest administration during his term of office. He has announced his policy of giving protection to cut-over lands as well as to merchantable timber.

DISTRICT 7 - EASTERN DISTRICT

Acquisition Surveys: During the calendar year 1924 District 7 surveyed nearly 210,000 acres of land being acquired under the provisions of the Weeks Law. Ten parties were engaged in this work and a total of 912 miles of boundary was run at an average cost of $47.75 per mile. In establishing the boundaries it was necessary to run 276 miles of auxiliary lines, making a total of 1188 miles surveyed at an average cost of $36.65 per mile. This work was distributed over the Forests in the East, the bulk of it being on the Shenandoah Forest, where 70,000 acres were surveyed involving 537 miles of line.

The 1925 survey program embraces approximately 140,000 acres offered for sale by some 125 owners. It is estimated that it will be necessary to survey approximately 700 miles of line. The greater part of the work is on the Allegheny, Cherokee, White Mountain, and Unaka Forests, with two surveying parties on each of the first three Forests and one party on the Unaka. Three other parties will be in the field part time on scattered jobs on the other Forests.

* * *

Why Not? Walter J. Quick, Junior Forester on the Pisgah, did some effective work during AMERICAN FOREST WEEK. Among other things, Quick wrote to the ministers in his neighborhood that "Certain individuals who have taken active part in the suppression of forest fires on the Pisgah Forest have become convinced that it is quite as essential that the ministers preach against forest fires as it is that they preach against Hell fire." Needless to say, Quick secured results.

* * *

DISTRICT 8 - ALASKA DISTRICT

Big Timber on the Tongass: A Sitka spruce of ample proportions was recently felled on the Long Island sale of the Ketchikan Spruce Mills. This veteran was 9 feet 8 inches on the stump inside the bark and about 650 years old. It showed very slow growth for the first [illegible] years but remarkable growth was made up to about 500 years of age. A distinct falling off in growth was noted beginning about 100 years ago, probably coincident with the time that the tree lost its top mast and most of its rigging in a wintry gale. Some idea of its size may be gathered from the fact that the butt 24 feet scaled 10,500 feet B. M. gross scale. We must admit that age had told on the old fellow, for there was only 86 feet of merchantable length, the rest being badly rotted on account of the broken top.

Not to be too much outdone by their confreres, the spruces, a few of the hemlocks on the area have attained some remarkable sizes, as hemlocks go. One was scaled that had a butt diameter of 5 feet 9 inches, 148 feet of merchantable length, and a gross scale of 10160 feet B. M. and a net scale of 9,140 feet.--J.A.T.

* * *

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 23. Washington, D. C. June 8, 1925.

THE PIG IN THE PARLOR

By Aldo Leopold, Forest Products Laboratory

In the May 11 SERVICE BULLETIN there is an item from D-6 which says in effect that the "wild-life enthusiasts" need not fret about the invasion of wilderness areas by roads, because in Germany there is a mile of dirt road for every 105 acres of forest, and a mile of hard road for every 220 acres of forest. Germany, it says, spends up to 35 cents per acre per year for forest roads, and because we have not attained such beatitude we need not worry yet about overdoing the road game.

In short, the wilderness area idea is assumed to be an anti-road idea. The assumption is incorrect. It is just exactly as incorrect as Editor Abbott's assumption that recreational development is anti-forestry. My plea is that the wilderness idea be not condemned, especially by foresters, without first acquiring at least a rudimentary understanding of what it is all about.

I do not know of a single "enthusiast" for wilderness areas who denies the need for more forest roads. It is not a question of how many roads, but a question of distribution of roads. The wilderness idea simply affirms that a well-balanced plan for the highest use of National Forests will exclude roads from certain areas so that the unmotorized forms of public recreation will not be left high and dry, just as summer homes are excluded from certain areas so that the camper will not be left high and dry. The only difference is that where a public camp ground requires a forty, a public wilderness area requires a few townships.

Roads and wilderness are merely a case of the pig in the parlor. We now recognize that the pig is all right - for bacon, which we all eat. But there no doubt was a time, soon after the discovery that many pigs meant much bacon, when our ancestors assumed that because the pig was so useful an institution he should be welcomed at all times and places. And

I suppose that the first "enthusiast" who raised the question of limiting his distribution was construed to be uneconomic, visionary, and anti-pig.

THE SCHOOL OF THE WOODS

By P. Keplinger, D-2

The School of the Woods; what is it? What should it teach? I have read Shepard's article in the May 4 SERVICE BULLETIN with a great deal of interest - read it three times, in fact - but am not yet sure that he has the answer. I cannot help wondering. Instead of satisfying me, he has raised a number of questions, fundamental questions which are disturbing to my mental complacency.

What is our job anyhow? Wherein are we falling short? What are our greatest weaknesses? Just where should we put the most stress right now to get better all-around results? What kind of results are we after?

The article referred to says that Congress gave us the job of growing timber and forage. I wonder. Why should we grow timber? Just to grow it or to grow it for use? If growing it for use is the answer, then we are a thousand per cent perfect, for we are growing it ten times as fast as we use it.

Mr. Hurley, Chairman Federal Trade Commission, in his book on "Awakening of Business" says: "No matter how efficient a factory may be, without proper merchandizing methods success cannot be attained." Isn't that just wherein we have failed?

We are engaged in a producing business. We have looked upon production as our job. We have concentrated on production, and I believe that our production methods have been good; so good in fact that our organization is all out of balance. We produce a perishable product and let it rot - millions of dollars worth of it each year - and yet we continue to concentrate our energies on production.

Do we not need to readjust our point of view? We call ourselves wood farmers, but what would you think of a wheat farmer who concentrated his efforts on growing more wheat, but never took the trouble to harvest or market his crop? Isn't that what we have been doing? What we need to realize is that utilization is a part of forestry; that there is a crop each year; and that if we fail to harvest the crop there is an economic loss; not just the stumpage loss which amounts to millions, but the loss of the material needed by our industries.

We have given a lot of attention to fire protection in this District and are proud of our record. We really do it well, but why? Is it better for wood to rot than to burn? We sometimes speak of fire losses, but in reality in this District we have never lost a single board foot through fire. True, we have burned up several feet, but until our harvest has been curtailed by fire you cannot say that we have lost anything, can you?

Of course we have an alibi. We say we have no market; but do we know? Have we ever really tried to develop a market? And our methods of exploitation in this region are archaic. Why not put some of our investigative men to work finding ways to save the waste in our forests - to get the wood we grow to the place where it can be used. Old Mother Nature is now, and will be for years to come, growing it a lot faster than we know what to do with it.

In the same book referred to above, I find this: "In last analysis success in business depends upon the individual. If he does not understand both the details and the broad aspects of the industry of which he is a part, he cannot expect to be successful." Now this is how it looks to me: Right now we are pretty darned good on the details of our work, especially in production, but we are still lacking in an understanding of these "broad aspects of the industry." It is so big we have difficulty in seeing it all at once. We lose our perspective. We get interested in doing a thing and forget why we are doing it.

To improve our organization we should, of course, concentrate on our greatest weakness. If I am right in my analysis of the situation, the thing to do is to concentrate efforts in training, not on the so-called technical phases of our work but on business administration, both in detail and in its broader phases upon which our real success depends.

--------#-------

AMERICAN WOODS FOR PAPER MAKING

The following is a summary of the pulping qualities of the principal commercial woods of the United States as shown by trials conducted by the Forest Products Laboratory. Only five or six of these woods now find extensive use in the pulp and paper industry, but the Laboratory trials indicate that with slight modifications in the standard pulping processes many others might be used in the manufacture of commercial grades of paper. Detailed results of the experiments on any of the woods are obtainable from the Laboratory.

Softwoods

Spruces. All spruces are suitable for pulping by any process. All make high quality pulp.

Hemlocks. Western hemlock is very similar to spruce in its pulping qualities. In the groundwood or mechanical pulping process it requires more power than spruce to yield pulp of the same strength. Eastern hemlock is not so suitable for groundwood, and chemical pulps from it are darker, require more bleach, and are usually weaker than spruce pulps.

Firs. All true firs are suitable for pulping by any process. Red fir gives rather dark sulphite and mechanical pulps, and its sulphate is more difficult to bleach than is spruce sulphate. The other firs are as readily pulped by any process as spruce is, and the pulps obtained are comparable to spruce pulps.

Pines. Lodgepole, western yellow, white, sugar, limber, and pinon pines all make good mechanical pulps. The other pines tested are too dark or contain too much pitch to be well suited to the groundwood process. Jack, loblolly, lodgepole, Norway, pond, sand, and scrub pines, by slight modifications of the cooking process, can be made into good sulphite pulp with reasonable bleach consumption. With the other pines uniformity of digestion is more of a problem. All the pines reduce readily in the alkaline (soda and sulphate) processes, and all bleach satisfactorily under proper conditions.

Cypress, Douglas Fir, Larches, Redwood, and Red Cedars. None of these woods are suitable for groundwood. They are much more difficult to pulp by the sulphite process than hemlock, and the bleach consumption is barely within the range of commercial feasibility. They all may be reduced by alkaline processes to pulps not quite so strong but otherwise comparable to pine pulps. Redwood and the red cedars are too light weight to make their use practical.

White Cedars. White cedars reduce readily by all processes. The pulp yield per cord of wood is very small, however, since it is proportional to the weight of the wood. As pulpwood is bought on a cord basis, the white cedars probably would not prove acceptable to the industry.

Hardwoods

Hardwoods are not well adapted to the manufacture of mechanical pulp because of the excessive power required to grind them.

All hardwoods can be reduced by the soda process, and the pulp can be used in conjunction with spruce sulphite or some other long fibered stock in the manufacture of book and similar grades of paper. Basswood and aspen are pulped most easily. Red alder, balsa, chestnut (after tannin extraction), elms, soft maples, and willows all pulp fairly easily. Ash, birches, beech, buckeye, butternut, catalpa, gums, hackberry, magnolias, mangrove, and hard maples are rather difficult to pulp, but some of them are used commercially. Hickory, locust, oaks, and sassafras are very difficult to pulp, and their use is generally impractical.

Some of the hardwoods can be readily pulped by the sulphite process and made into book and similar grades of paper with small bleach consumption. Among them are ash, aspen, birches, butternut, most elms, gums, hackberry, hickory, magnolias, maples, sycamore, and willows. Hardwoods that are difficult to pulp by the sulphite process because of structural irregularities or the presence of extractive materials are basswood, buckeye, catalpa, chestnut, locust, oaks, red gum, sassafras, and slippery elm.

Recent trials at the Laboratory give promise that a number of hardwoods, including aspen, beech, birch, cottonwood, black gum, tupelo gum, maple, and other light-colored woods can be reduced by a combination of a chemical and a mechanical process to a pulp well suited for the manufacture of the lower grades of print paper.

--------#---------

WASHINGTON NOTES

National Park Conference: Mr. Sherman and Mr. Kneipp recently returned from a trip to Skyland where, in connection with the Fifth National Conference on State Parks, they had an opportunity to look over a part of the proposed Shenandoah National Park. The views from the principal points of vantage in this area are unquestionably superb, and are the principal elements upon which National Park status for the area can be based. While some of the coves contain very good stands of virgin forests, a large proportion of that part of the area noted is of inferior timber value and not of such character as to stand out prominently above the general level of the Blue Ridge forests. The rugged formation and beautiful waterfalls of White Oak Canyon will appeal to many visitors to the area, although the canyon cannot compare in size or grandeur with those which mark the western National Parks.

The proceedings of the Fifth National Conference on State Parks were very interesting and indicate a degree of progress in the development of State Park systems comparable to that which is being attained in the development of State Forest systems. The absence of a clear-cut line of demarcation between State Parks and State Forests, their forms of administration, and their public purposes was quite apparent during the proceedings of the conference, and especially in the reports of the representatives of the various States. These reports clearly indicated that there is a close community of interest between the State Park and the State Forest movement; so close in fact, that the functions performed are in some States difficult of differentiation. The reports as to State Forests almost invariably emphasize recreational use as one of the important services rendered by the forests, while reports as to the parks warrant the conclusion that the ultimate application of what might be termed "landscape forestry" will in course of time make the parks rather important sources of timber supply.

The resolutions adopted by the conference related rather closely to State Park questions and did not involve any matters which bear specifically upon National Forest administration.

- - - - - - -

Assistant Forester Herbert A. Smith left for a short trip to Harrisburg and other points in Pennsylvania. He plans to see several of the State Forests, confer with members of the Pennsylvania State Forest Service, and visit the Allegheny National Forest.

- - - - - - -

Assistant Chief Engineer G. H. Lentz left for a two months' inspection trip to Districts 3 and 5.

- - - - - - -

Advertisement: Victor Stereopticon on tripod, with lantern slide carrier, lamp and cord, for transfer from Washington office to any District purchasing focus lens at a cost of about $12.

- - - - - - -

DISTRICT 1 - NORTHERN DISTRICT

Fire Season Begins: On May 18 the first fires of any size occurred in this District. One on the Cabinet in the 1910 burn covered 150 acres but was controlled within a day. A 40-acre fire on the Pend Oreille escaped from a logging camp, and 15 men in addition to the logging crew were required to fight it. This looked like a troublesome fire until rains came the next day and quieted the situation.

On the Coeur d'Alene it has become necessary to place 4 or 5 emergency patrolmen, pending a recurrence of the rains. This method of patrol had to be used because maintenance crews cannot be placed until the regular opening of the season about June 10 or 15.

A hopeful outlook is indicated by a Supervisor's statement that there appears to be a very close observance of the fire laws, as practically no promiscuous burning of brush and slashing is being done this year. The outlook as a whole is favorable, since rains are of frequent occurrence, although these are spotted over the western part of the District.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Fire Cooperation in D-2: The genuine interest of the Colorado public in the prevention of forest fires during the present abnormally hazardous season is shown by cooperation of a large number of service clubs and similar organizations. These groups are issuing to their members a card signed by the Governor of the State and by the District Forester in facsimile with the proper written endorsement of the organization concerned. This letter of credentials has been issued in an effort to satisfy the many demands for special commissions authorizing public-spirited citizens to give warning in cases where carelessness was observed.

The extent to which the local public is awake to the need of care with fire in the hills is shown by the fact that a recent issue of the Rocky Mountain News carried a front-page story regarding an abandoned camp fire which was discovered burning in a timbered section near the city. Associated press reports of forest fires in all parts of the country are quite commonly featured in the Denver papers.

- - - - - - -

Planting on the Nebraska: A total of 1042.56 acres was planted on the Bessey Division of the Nebraska Forest this spring. The season was very early and quite favorable. The amount of moisture was close to the average and the operation was not interrupted by storms. About 60 per cent of the trees planted was yellow pine and the remainder was almost entirely jack pine with the exception of small numbers of Scotch and Austrian pine. Sixty acres of this spring's planting was done with the Michigan bar method under the direction of Planting Assistant Johnson, who was detailed from the Michigan Forest to give this system a thorough try-out. This work will be compared with the system of trencher planting that has been used at Halsey for many years.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Arizona Has Volunteer Forest Fire Companies: In southern Arizona, adjacent to the Coronado National Forest, the cities of Bisbee, Douglas, Tombstone, and three other smaller communities have volunteer fire companies for the suppression of forest fires in the neighboring mountains. The fire teams were organized and are maintained by business men who feel concern for forest benefits. They are not resolution cooperators, but actual, honest-to-goodness fire-fighters who study fire strategy and, on occasion, heave their equipment-tools, beds and chuck- which is always in readiness, into conveyances and hie to the fire line where they put out forest fires under the direction of Forest officers.

- - - - - - -

It Makes a Difference How It's Done: A permittee on the Datil Forest ran foul of the New Mexico State Fire Law a few days ago by leaving a fire unattended on National Forest land. He burned the carcass of a yearling that had died from blackleg and his fire, left unattended, escaped. Supervisor Grubb and Ranger Simmons picked up the smoke and put out the fire. The justice of the peace assessed the offender $10 and costs. The permittee thinks he was caught between the "Devil and the Deep Sea." He says he would have been prosecuted if he had not disposed of the carcass and he was prosecuted for disposing of it. It's all in the way it's done. He should have burned the carcass, to be sure, but had he notified the Ranger that he was going to burn a carcass, made the job safe, and then stayed around till the fire was out, he would not likely have felt the prick of old Satan's fork on the one side, nor the cold, cruel spray of heartless salt on the other. It's simple enough in the light of afterward.

- - - - - - - - - - -

DISTRICT 4 - INTERMOUNTAIN DISTRICT

New Mill Starts Operations: The recent opening of the [illegible] Eccles mill at Cascade is of special interest, as it is the first mill in District 4 to start out operating on a definite sustained annual yield basis. The mill is exceptionally well constructed and is equipped with a single band saw and a resaw for cutting two-inch material down to one inch. The mill is sawing the logs which were cut in the woods a year ago last fall. Those which have been in the pond since that time are turning out to be of excellent quality still, although, of course, those piled in the woods and at landings are badly blue stained by now. Not only the mill itself is of excellent quality, but it has a fine pond and excellent yard facilities on high, dry ground. The company is now laying the foundation for the planing mill and dry kilns. The Cascade working circle is all tributary to the mill and is estimated to be able to furnish a cut of 12,000,000 feet annually. It is possible that other lands may be added to this working unit, which will serve to boost the cut still beyond this figure.

- - - - - - - - - - -

Supply Depot Takes on New Work: Frank Haynie of the Supply Depot has returned from an extended detail to Washington, where a careful study was made of the whole system of supplying the National Forests with equipment. One change which resulted from this study will be the supplying of all National Forests, both in the East and in the West, from the Ogden Supply Depot. The eastern Forests have heretofore been supplied from Washington. Freight bills will of course be higher under this system, but the Ogden Depot can take on the work with no addition in personnel, while a reduction of three in the Washington office can be accomplished. This more than makes up for any increased transportation charges.

DISTRICT 5 - CALIFORNIA DISTRICT

Big Tree Broadcast Seeding: In the fall of 1921, after the first heavy rains, Ranger W. J. Brown sowed ten pounds of Sequoia seed on a five-acre area immediately adjacent to the Deer Creek Grove of Big Trees. The area had been logged off during the summer of 1920 and consequently the soil was torn up and mineral earth exposed. The brush was also burned in 1920, and as there was some litter and scattered brush on the ground the surface was pretty well burned over. Consequently, because of the removal of the large trees, favorable light conditions prevailed, and as a result of the fire and logging an excellent seed bed was prepared.

In November, 1924, in company with Ranger Brown, this area was visited and interesting results noted. At this time thirty-five Sequoia seedlings were counted and a measurement taken of their height. For some unknown reason seventeen seedlings had their 1923 leader growth killed. Practically all, however, had made good recovery, and were sending up new shoots.

The height growth of the seedlings was extremely variable, from under 6 inches to 43 inches, with an average total height growth for the 3-year period after sowing of 16.5 inches. There is no apparent reason for this wide variation in height growth. For conifers this is remarkable growth considering that half of the seedlings were severely handicapped by the killing of the leader. None of the seedlings had died from this or any other cause. Undoubtedly the average total height growth would have been much larger had the trees remained uninjured.

These facts tend to strengthen the belief that Sequoia seedlings prefer an intolerant site, with mineral earth exposed, devoid of litter. The measurements show the rapid rate of growth for young seedlings under favorable conditions. It is planned to keep this group of seedlings under observation in the future.

A similar condition in regard to tolerance and seed bed as a result of logging and fire exists immediately adjacent to several of the largest Sequoias. On this area within natural seeding distance from the largest Sequoias, hundreds of young seedlings have appeared within the past four years. This is in direct contrast to the area under the Sequoias, where primeval forest conditions prevail - heavy litter and dense shade. No seedlings are found here, although undoubtedly this area has been heavily seeded as long as there have been Sequoias.

From this we can draw the same conclusions - that Sequoia seedlings are very intolerant and that seeds require mineral soil free from litter for the best germination.--W.L.J.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

The Bigger Week: Clippings, newspapers, reports, etc., are still coming in strong bearing on American Forest Week activities. We haven't had a chance yet to tabulate them. This much seems certain, the week was a hummer! A big lot of splendid reports are in. Seattle's effort, under the chairmanship of Supervisor Weigle, was the big, outstanding event of the week. The participation by chambers of commerce, by business men and business concerns was widespread and far better than anything ever accomplished in previous years. Schools were the big objective, and the receptions received were most encouraging. It's too early yet to attempt to give details - they will follow, but the week was a whooping success!

- - - - - - -

Oregon Fire Wardens Meet: On May 4-5, at Salem, occurred the annual meeting of the Oregon Forest Fire Wardens. Some 60 attended the meetings, which were characterized by a lively interest in all subjects discussed. The meetings were presided over by State Forester Elliott. The following Federal Forest officers were in attendance: C. M. Granger, E. H. MacDaniels, T. T. Munger, T. M. Talbott, Shirley Buck and J. D. Guthrie. Talks were made by Granger, Buck, Munger, MacDaniels and Guthrie.

-------#-------

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 24. Washington, D. C. June 15, 1925

TRAINING FOREST RANGERS IN PRUSSIA

By W. N. Sparhawk, Washington

In view of recent discussions on training Forest officers in this country, the new regulations concerning entrance into the State Forest Service of Prussia may be of interest.

A candidate for a ranger (Forster) job must be over 17 and under 21 years old, and must submit with his application a biographical sketch, a birth certificate, a certificate of physical fitness, a certificate showing that he has a good common school education, a certificate of good conduct from the police department, and a written agreement of his father or guardian to support him for at least five years. If all these papers are in good shape, he is allowed to take an oral and written examination in German, geography, history, mathematics, natural history, and elementary physics and chemistry. He cannot pass this examination if he shows serious deficiency in spoken and written German, no matter how good he may be in the other subjects.

On passing this entrance examination, he is assigned to a training forest. In each forest district, districts and forests are selected for training purposes, such selections being based partly on their forest conditions and economic development, and even more on the personality of the ranger (Forster) or supervisor (Oberforster) in charge. The regulations state:

"The careful and thorough instruction and guidance of the student forester is one of the most important duties of the officer under whom he works. This officer should promote his mental development, accustom him to obedience, punctuality, perseverance, and physical endurance, and should inspire and intensify his love for the forest and the forestry profession."

The candidate may not be assigned to a forest where his father or other close relative is in charge. He serves seven months (October 1 to April 30) in the field under a ranger, and during this period is supposed to become familiar with the native trees and the important shrubs and plants; to learn the life histories and habits of the forest animals; to learn the correct methods of game utilization, care and training of hunting dogs, and use of weapons; to learn the laws and regulations dealing with trespass; and to acquire practical experience in all kinds of forest work, including protection of timber and game, cultivation of the ranger station garden and pasture, several weeks of timber cutting and road building, and at least four weeks of planting. He may receive regular day wages for the last three kinds of work. He must keep a diary and submit it once a month to the ranger and supervisor.

After seven months he is assigned to the Supervisor's office for 5 months, during which period he is to become familiar with the office work of the forest, besides getting further training in field and office under the supervisor.

If his work and conduct have been satisfactory, at the end of the year he is assigned to a forest school, where he spends one year acquiring training in the theories of forestry. He then takes an examination to determine whether or not he has a good enough foundation to enter a probationary period as a forest officer, and if he passes he is required to swear allegiance to the constitutions of the Reich and of the State of Prussia. He then becomes a forest apprentice (Forstgehilfer), and is sent for three months to a police school, where he learns his rights and duties as a police officer. Following this comes a year's field training under an experienced ranger, in which he has to do all kinds of work, including the clerical work, of a ranger district. Nine months are then spent in the supervisor's office, mainly as an assistant to and under the guidance of the forest clerk. The following two to three years are spent on assignments all over the forest district, on various kinds of work, including silviculture, protection, improvement work, utilization, surveying, timber measurement, and in some cases work for not more than two months in an industrial plant.

Throughout the training period, excepting the 9 months' office assignment, the young forester must keep a diary showing what he has done and what he has learned each day. Once every two months all the trainees on a forest are taken on a field trip by the supervisor to see various operations, and once a month each one must prepare a paper on an assigned topic, to be reviewed by the supervisor. Such papers are to be related as closely as may be to the practical work of a forester, including the application of theory to actual conditions.

During the seventh (in some cases, the eighth) year from the beginning, the candidate takes a final examination to qualify him for permanent appointment as assistant ranger (Hilfsforster). This consists of six months continuous employment as a ranger, and a written and oral examination. Upon passing this final hurdle, the name of the successful candidate is entered on the register of assistant rangers, from which appointments are usually made in order of rating. As a rule, the men are appointed to State forests within the district in which they were trained.

In order that they may attend strictly to business, and because of the frequent changes in residence, candidates are forbidden to marry prior to their final appointment, although special permission may be granted in some cases.

Several conclusions may be drawn from a study of these requirements. In the first place it is evident that the training required of Prussian forest administrative officers is not as overbalanced on the theoretical side as some people in this country have supposed, with one year of forest school to 6 years of "practical" training. It is also obvious that the profession of forestry, even for the lower positions, is taken pretty seriously, and that men who go into it will do so intending to make it a life work and one in which they can feel considerable pride.

-------#-------

INTERESTING FIGURES ARE UNEARTHED

By Will C. Barnes, Washington

In getting together the data called for by the Senate Public Lands Committee, we have unearthed some rather interesting information, which to a certain extent tends to mitigate the burden of assembling it.

The committee asked for a statement showing the receipts from 1906 to 1924 from Timber Sales and Grazing. This by Forests and States.

The totals for the entire nineteen years were in round numbers:

Timber Sales	$26,933,000
Grazing	23,621,000

Some of the States showing the largest receipts are as follows:

California	T.	$4,678,000	Oregon	T.	$3,336,000
"	G.	2,549,000	"	G.	2,472,000
Idaho	T.	3,031,000	Arizona	T.	2,074,000
"	G.	3,290,000	"	G.	3,500,000

The Branch of Grazing for many years estimated that of the total acreage of Government land in the National Forests approximately 110,000,000 acres were of more or less value for grazing purposes. However, the figures taken from the range appraisal sheets show that 88,109,000 acres are usable for grazing and 48,725,000 are not usable for grazing.

The number of applications disapproved in full for 1924, as brought out by the questions asked, was 1298 - 787 for cattle and horses, and 511 for sheep and goats. The number of stock involved was 31,914 cattle and horses, and 441,410 sheep and goats. Forest officers will naturally expect to find the well-known Manti Forest at the head of the list in number of applications disapproved. It's there all right, with 92 disapproved for 823 head of cattle and 61 disapproved for 6,092 head of sheep. The largest number of applications disapproved for cattle was on the Santa Fe, with 68 applications for 536 head. The largest number disapproved for sheep was on the Uinta with 37 applications for 9,067 head.

-------#-------

MOVIE STUFF

By H. R. Kylie, Washington

District 2 has just reported on a season of motion picture showings covering the period from July 1, 1924, to April 30, 1925. In that time they have shown 42 of our pictures and these pictures have been shown in 51 towns throughout the District, reaching a total of 146,021 people. District 6 has also done good work showing pictures and has reached a total of approximately 46,000 people.

This would seem to indicate that motion picture theater owners are not averse to showing Forest Service films when the local Forest officer gets after them. In a motion picture theater what we have to say has simply got to be read. It is there before the eyes of the audience who have no choice but to close their eyes, go home, or read what we have to say about forestry. This is not true of magazine or newspaper advertising; and in this fact, it seems to me, the Service has a wonderful opportunity, and one of which I do not believe we are taking the fullest advantage. The Service has 56 reels on different subjects, most of which are short ones that can be fitted into the regular programs at the local theater. We realize, of course, that many of them are old and perhaps susceptible of improvement in the presentation; nevertheless they present an opportunity to say something on forestry if the owner of the theater will let you.

Why let Districts 2 and 6 run away with this sort of work?

-------#-------

WASHINGTON NOTES

Washington Employees Hear About Experiment Station Work:

At a Family Meeting held June 3 in the auditorium of the National Museum, R. D. Forbes favored the Washington office force with a good talk on the major studies thus far undertaken by the Southern Forest Experiment Station. His talk was followed by the two-reel film entitled "The Green Barrier." Since most of the previous meetings have been given over to discussions of administrative problems, a talk on forest research by a Director of one of our Experiment Stations was doubly welcome. The subject was made so interesting and instructive by Mr. Forbes that we now want to hear about the work at the other stations and hope it will be possible to have some of our other distinguished researchers talk at a future meeting.

The address of Mr. Forbes was the seventh and last of the present series. Beginning next October there will be a new series started with an all-star cast.--H. I.

- - - - - - -

Tom Gill has returned from a week's trip to New England, where he went through the Harvard Forest at Petersham, Massachusetts, and the Yale Forest at Keene, New Hampshire. On both forests a number of interesting silvicultural experiments are being carried on.

A series of photographs of the Rainbow Nursery belonging to the Connecticut Agricultural Experiment Station were taken.

- - - - - - -

Assistant Engineer Wright left for a two weeks' inspection trip of the survey activities in District 7, particularly the Acquisition Surveys.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Lodgepole Pine Poles: Inquiries received concerning the possibilities of lodgepole pine for telephone and power line poles indicate that the wood preservation work which has been done in this District during the past fifteen years will have an important bearing upon the promotion of timber sales of this species for pole purposes.

Information obtained from the records of several Forest Service experimental lines and from other sources has been contributed to the following companies by the District Office of Forest Products:

Mountain States Telephone & Telegraph Company, Denver, Colo.
Alberta Wood Preserving Co., Ltd., Calgary, Alberta, Can.
Montana Power Company, Great Falls, Mont.
Northern Tie & Treating Company, Minneapolis, Minn.

A collection of data was furnished the Mountain States Company through their Montana Plant Superintendent about three and one-half years ago, which has been considered by some officials of the company at least as the starting point of investigations leading up to the establishment of a treating plant at Salida, Colorado. This plant is eventually expected to have a capacity of 100,000 poles per year. The company is planning to use butt treated lodgepole pine poles quite extensively in Colorado, Utah, New Mexico, and Texas.

The Alberta Wood Preserving Company of Calgary has been finding a market for some butt treated lodgepole pine telephone poles during the past two or three years, and the Montana Power Company is considering the advisability of using creosoted lodgepole in a new line which will be constructed in the near future.

The Northern Tie & Treating Company is figuring on using lodgepole pine pressure creosoted to compete with yellow pine poles from the South.

- - - - - - - -

The Female of the Species is More Numerous than the Male: The reports on deer seen in Montana disclose some interesting facts. Out of 2125 deer seen and the sex determined, 1429 were does and 696 were bucks, which gives a ratio of a little better than two does to one buck. There were also 422 does observed with fawns and a total of 543 fawns was seen. From the reports it appears that very few fawns were seen before June 1, and while 5365 deer were observed the sex determined occurred largely after June 1.

In Idaho 1120 deer were observed and sex determined, of which 412 were bucks, 708 does, 88 does with fawns, and 182 fawns.

I understand there is no buck law in Idaho, so that the comparison of relation between bucks and does in the two States is of interest.--G.A.S.

-------‡-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Colorado Mountain Club Visits F. S. Nursery: About 100 members of the Colorado Mountain Club from Denver and Colorado Springs recently gathered at the Monument Nursery for the purpose of looking over the planting work on the Pike Forest and making a tree identification hike. The trip was arranged through the cooperation of Mountain Club officers and the Forest Service. In balancing the portion of the day devoted to the nursery and planting against that devoted to the tree identification hike, an attitude of compromise was taken to a greater or less degree by officials in the Service who arranged the trip. The idea was that if the visitors would give us their attention during the morning and let us show off our work, we would help them make the most of a trip through the canyon to learn the names of various common trees. Strangely enough, however, the interest of the party in the nursery and planting work grew to such proportions that it was impossible for the leaders to hurry them through according to schedule. It was very illuminating to see the appeal which this work made, not only to the reason but to the imagination of those who were not familiar with it.

- - - - - - -

Killing of Beaver to be Investigated: States in the Rocky Mountain District have been following a very liberal policy in the issuance of trapping permits for beaver where damage to property is alleged. Not much investigation is given to individual permits, of which the serial numbers in Colorado now run to nearly 4000. Each permit in Colorado provides for the taking of ten beaver, and with a limited number of State Wardens there is opportunity to make very little investigation of applications, although the Forest Service has offered to assist in this matter a number of times.

The new State Game Commissioner of Wyoming, Mr. Sanders, has begun looking into the beaver trapping question in that State, and has already made some important arrests and convictions. Sanders states that an examination is going to be made of all affidavits received concerning the killing of beaver, and if no damages are found to have been done the hides will be confiscated and the violator prosecuted.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Serious Fire Season: With 209 fires, 33 of them Class C, up to May 31, District 3 is in the midst of an unusually hard fire season. The season is fully a month ahead of normal, and the acreage burned is already double that of last year's entire season. Dry lightning storms and high erratic winds are taxing the fire fighting forces to the utmost. One fire fighter was burned to death in the recent Big Dry Creek fire on the Gila.

- - - - - - -

Training Camp will Take New Form: Modifications in the training camp plans for this year call for two training periods and a Supervisors' meeting. The first camp, which will be for Junior Rangers, will open probably on August 17 and continue for one month. A camp for Senior Rangers will be held during the succeeding two weeks, which will be followed by the Supervisors' meeting. The Supervisors' meeting will be a travel affair. It will begin at the Southwestern Forest Experiment Station at Ft. Valley and consist of a trip through the Colorado Plateau with grazing and silvicultural conditions to be examined en route.

- - - - - - -

Lightning Starts Fire and Kills Deer: Assistant Ranger Bentley of the Coronado relates a fire story in which lightning struck three trees near the head of Garden Canyon, set a fire going, and killed two deer. The deer, one a spike buck and the other a buck that had shed his horns, had evidently been standing under the trees at the time the lightning struck. The spike buck was found lying close to one of the lightning struck trees and the other was down the hill about 50 feet below the trees.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

"Lost City" Has Celebration: A celebration was recently held at the newly discovered Indian ruins. These ruins are located about one mile from St. Thomas, Nevada, just a short distance above where the Muddy River empties into the Virgin River. Twenty-five hundred people attended the celebration. A large platform had been built, on the rear of which the replicas of the adobe houses had been constructed under the supervision of Mr. M. R. Harrington, the archaeologist in charge of excavating work. A rather extraordinary pageant was produced almost entirely by local people. Governor Scrugham, State officials, and representatives of the railroads were present. The remains of the old adobe houses consist principally of the floors. Rather limited excavation so far shows that the dead were buried under the floors of the adobe houses, as a great many skeletons have been found. The skeletons indicate that the people inhabiting the territory were not over five feet in stature. Two of the skeletons have been left just in the position found with the dirt removed, and have been boxed in for protection against vandalism. The work, according to Governor Scrugham, will be followed up quite vigorously, as $50,000 have been allotted for this purpose.

- - - - - - -

Range Management Course: A good shot of range management and forest management in general, particularly as it applies in Utah, will be introduced into the agricultural course in Heber next fall. At other points the agricultural teachers and principals are in favor of the proposition, but do not know how completely it will be used. State Superintendent of Public Instruction Jensen regards this as a movement in the right direction and will cooperate with us in putting it over.

- - - - - - -

It's Dry on the La Sal: Assistant District Forester Ernest Winkler has returned from an inspection trip to the La Sal Forest, during which he went over the south division quite thoroughly. He found conditions drier than he has ever seen them during the month of May. The soil is dusty even at the highest elevations. No rain has fallen since early April and many springs have gone dry that usually run season long. Unless effective storms come soon, it is decidedly questionable how the stock on this division of the Forest can be watered. It is certain that there will be serious congestion near the more permanent watering places. The dry farmers, as well as the cattlemen, are hard hit.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Plumas Forest Sells Fire-Killed Timber: Supervisor D. N. Rogers of the Plumas National Forest has just sold four million feet of fire-killed timber to the Clover Valley Lumber Company at the rate of $1.00 per M feet for yellow pine and $.15 per M feet for white fir. This timber was originally included in a sale to this company at the rate of $3.25 per M for yellow pine and $.75 per M for white fir. The difference in value between the present sale rate and the original rate represents the depreciation in the stumpage involved caused by fire which burned over the area last year. The fire-killed timber, of course, had to be readvertised before the resale at lower rates could be made.

- - - - - - -

Automobile Club Gives Financial Support: Another evidence of the fine cooperation of the Automobile Club of Southern California has just been received in the form of a letter from the Secretary of the Club approving the entire camp ground improvement program put up to them this spring. The club has appropriated a total of $4,450 to the six Forests in their District as follows: Angeles, $1,500; Cleveland, $500; Inyo, $800; San Bernardino, $700; Santa Barbara, $750; and Sequoia, $200. This great organization has taken much substantial interest in our camp ground development program in the past, and this is another evidence of the fact that we can count upon them for continued financial support.--L.A.B.

DISTRICT 6 - NORTH PACIFIC DISTRICT

Meeting of the A. A. A. S. The Pacific Coast Division of the American Association for the Advancement of Science will meet in Portland from June 17 to 20. There will be sectional meetings of such scientific societies as the American Physical Society, Cooper Ornithological Club, Ecological Society of America, American Chemical Society, American Paleontological Society, Seismological Society of America, etc.

The meetings will be held under the auspices of Reed College. The Society of American Foresters, which is affiliated with the A.A.A.S., will be represented and will have charge of a general meeting to be devoted entirely to forestry. Such well-known foresters as given below are scheduled to speak or present papers at this open meeting: E. T. Allen, C. M. Granger, Dean Winkenwerder, James T. Jardine, C. G. Bates of the Rocky Mt. Forest Experiment Station, and Dr. E. P. Meinecke, forest pathologist. A committee from the North Pacific Section of the Society of American Foresters has general charge of this open meeting, made up of Jno. D. Guthrie, chairman, T. T. Munger, and L. C. Merriam.

- - - - - - -

Paper Company Employs Forester: Another company has employed a technical forester to look after fire prevention and reforestation. This is the Crown-Willamette Paper Company which has just added to its staff of the Portland office H. Grossiman, a graduate of Michigan of the class of 1912.

-------#------

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 25. Washington, D. C. June 22, 1925.

HILL-BILLY SCIENCE

By S. B. Show, D-5

Dr. David Starr Jordan, in a brilliant address, once compared Science and Sciosophy. Science he defined as organized knowledge; Sciosophy as organized ignorance. The method of proof of Science is slow, laborious, and exacting; that of Sciosophy is simplicity itself. All you need to do is make a statement, then prove it by inversion, in this fashion: There is no pain in truth, therefore there is no truth in pain. One can readily see the boundless opportunities for rapid advance in knowledge, once this method is adopted.

Similarly, we may distinguish Hill-Billy Science as a prevalent activity of the human mind. Its method, like that of Sciosophy, is beautifully simple and direct. The characteristic of Hill-Billy Science is that what one wants to be true is true. To prove a far-reaching conclusion you merely deny the authority of whatever science there may be on the subject, assert that the opposite is true, and await the applause.

Hill-Billy Science is a favored method of the grazer who wants the forests to burn so that more feed will be available for his stock. Though actually he is interested in getting rid of the forest rather than saving or improving it, it would never do to admit that. So the system is to deny that there is such a thing as fire damage, calmly ignoring the well-known fact that here in California millions of acres of forest have been replaced by brush through the action of fire.

I quote from a recent letter. "I am a man that knows more about the mountains than all of you fellows put together. I have a thorough understanding of what fire is more than you. If you write the way you do you must have been raised in the city and never have seen the mountains or pine forest. Book learning in that line don't amount to a snap of your finger. Experience is what you want and that is what I have got."

Having thus beaten science to its knees, we proceed - "You know years ago we had the finest forest in the world, lots of water, lots of feed for stock, and no danger from fire if it did get out. Now look at it since you fellows took a hold. Nothing but trash on the ground which takes up all the moisture. You spoke of fire damage on cut-over land. Now just as soon as you burn it and get it clean you will have just as good a forest as it ever was, but if it isn't clean, nothing but trash and no stock feed at all. Now you can't go to the mountains to enjoy yourself on account of so many big insects of all kinds from the smallest little bug to rattlesnakes of all kinds. I go to the mountains every year yet and will see that no fires gets out. I am always careful with fire at all times."

Our H. B. Scientist thus proves that promiscuous burning in the interests of grazing is just what the forest needs.

The man who refuses to believe because he doesn't want to believe is perhaps the chief obstacle in attaining success in fire prevention. It may not be amiss to suggest that the same attitude of mind is the most serious barrier in getting timber growing started on private forest lands.

-------#-------

FOREST FIRES FROM ROAD AND TRAIL OPERATIONS

By E. A. Sherman

One of the recent large forest fires in Arizona was started by a burning fuse used by a trail crew in firing a blast while building a trail over a very hot and dry slope covered by inflammable grass and brush. The blast appears to have been fired in circumstances of fire hazard so great that although two or three men saw the fire as soon as the smoke of the blast cleared away they were unable to stop it. This case is being investigated by the District Forester and full responsibility for the fire will be fixed.

The Forest Service cannot condone practices by its own employees which result in fires, and no excuse will be accepted for failure of this kind. In every case of fire resulting from carelessness in the use of fuse or powder no effort will be spared to bring home the responsibility to the men at fault, and drastic disciplinary action will be taken when the facts warrant it.

-------#-------

[illegible]

By A. C. Shaw, Pisgah

The writer, although technically trained and holding a technical position and rating, cannot bring himself to agree with the idea expressed by the representatives of the Forest Schools, that all Supervisors should qualify for the position by passing either the Junior Forester or Junior Range Examiner examination.

Undoubtedly the Service would benefit to quite an extent were its entire personnel qualified as technical foresters, and a provision such as the examination discussed would tend to increase the interest of men in the technical aspects of forestry. There are many lines of work of importance that are almost wholly untouched in the entrance examinations, and subjects such as dendrology, entomology, and pathology, are so technical and require such a disproportionate amount of time for their assimilation that it is quite doubtful if the average run of otherwise well qualified non-technical men could assimilate sufficient of these subjects to enable them to make a creditable showing. Only the occasional forest school graduate could pass the Junior Forester examination after he had been out of college five years.

I do believe that Supervisors should stand an examination in order to qualify, or rather to enable them to qualify. If it were a requisite for the Assistant Supervisor and National Forest Examiner positions, the interest in forestry would be stimulated in the Ranger force, right where it is most needed today. Rangers qualifying in the examinations could be placed on the eligible list, eligible for promotion to the positions of Senior Forest Ranger, National Forest Examiner, Range Examiner, or Assistant Forest Supervisor. The examination would be quite different from the Junior Forester examination, dealing more with the practical aspects of forestry, Service procedure, Service problems, important phases of timber sale and management work, subjects that a prospective Junior Forester could not be expected to know. The Junior Forester himself might well be included with the Ranger force in this examination.

A Supervisor's duties partake of those of an executive. Executive ability is a qualification of much more importance than mere technical knowledge as far as the management of forests is concerned. An examination partaking of the nature of a qualification for the position of Supervisor would, as Col. Greeley has pointed out, lead many men to believe that qualification along this line would open the way to a supervisorship and discouragement would be the lot of those unfortunates who, although qualified in other respects, lacked the executive ability requisite for the position.

Nevertheless, we all recognize that a Supervisor's job is becoming more and more technical every year; that we cannot go on building up overhead to make up for the shortcomings of men, technical or otherwise, who cannot handle the technical aspects of their jobs. And it is the experience of the past that there has not been sufficient interest on the part of the men below the grade of Supervisors to furnish the Service with enough adequately qualified Supervisor replacements.

I doubt if compulsory study for the entire field force will accomplish the desired results. It may be that a bar to progress past the grade of Ranger or Junior Forester unless the individual demonstrate his fitness by an examination, oral or written, would awake sufficient interest to improve our personnel.

A written examination does not mean much to the man who has learned to cram. A few weeks preparation and a college trained hurdle jumper can pass an examination in almost any subject, and yet know little about it. The Forest Assistant who stood highest in the examination for that position was the poorest man in the woods out of the 15 or 20 Forest Assistants I have used in my crews.

A board of examiners sitting every two or three years in each District could accomplish far more than could be accomplished through written examinations.

-------#-------

WANTED - GAME ANIMALS!

The Cherokee National Forest has a perfectly ideal game refuge embracing the watershed of the Noontootla River. All it lacks is game, of which unfortunately there is a great scarcity. Any contributions from sister Forests which will reduce or eliminate this deficiency will be greatly appreciated by the Cherokee and particularly by Ranger [illegible] Woody, within whose district the game refuge is situated. Donations from other forests of bear cubs, pet deer, or other non-predatory critters will be thankfully received and the costs of preparing them for shipment and of transportation will be arranged by Ranger Woody. Here is a chance to give a deserving young forest a real start in life. The Noontootla region is one of rolling streams with deep pools, big timber, abundant forage, lots of mast, etc., without a motor road in it and with a trail system that permits easy protection. Any critter fortunate enough to be transported to its boundaries will lead a life of ease and security and will have a wonderful opportunity to assist in restoring the wild life conditions which prevailed in the days of Daniel Boone.--L.F.K.

-------#-------

WASHINGTON NOTES

Game Census Completed: The 1924 game census, which was recently completed, shows that over 687,000 head of big game animals make their home on the National Forests. Compared with the previous year, the 1924 figures represent an increase of about 44,000 head, after due allowance is made for 44,326 head of bear which were not included in the estimates of former years but which are included in the 1924 estimates.

Deer represent the vast bulk of the big game animals, with a total for 1924 of 550,567 compared with 511,238 last year. The five States credited with the largest number of deer are, in the order of their rank, California, Oregon, Montana, Idaho, and Arizona.

Elk have increased in all western Forests, 52,665 head being listed for 1924 compared with 49,540 in 1923. A notable increase in the elk herd on the Teton is undoubtedly the result of three excellent seasons with mild winters and satisfactory summers.

Antelope, or pronghorns, are still in a very unsatisfactory condition. The 1924 count shows only 5,071 of these animals, most of which are to be found in Arizona and Idaho. In northwestern Nevada and southeastern Oregon there is a large antelope herd grazing on public lands outside National Forest areas. An effort is being made to secure the creation of a game refuge which will cover the habitat of this herd, so that it may be protected and saved from extermination.

The number of moose found in 1924 shows a loss compared with 1923, only 5,106 head being shown last year compared with 8,000 in 1923. The number of mountain sheep and mountain goats is given as 12,433 and 17,244, respectively, a slight increase over 1923. Buffaloes were dropped out of the 1924 estimates as these animals are now only to be found in protected herds.

- - - - - - -

In Memoriam: At a recent meeting of the United States Geographical Board a peak in the Rainier National Forest was named Mt. Allen in honor of the late Supervisor Allen, and one in the Sierra Forest Mt. Shinn in honor of the late Charles H. Shinn.--W.C.B.

-------#-------

FOREST PRODUCTS LABORATORY

Washington Softwood Conference: The Laboratory report on "Industrial Uses for Short Lengths of Softwood Lumber" was presented at the General Conference of Softwood Manufacturers, Distributors, and Consumers, held May 1 at Washington. The study shows that the wood-using industries excluding railway car, sash and door, and box factories, buy 14.3 per cent of their total softwood lumber in short lengths (8 feet or under), whereas 68.4

per cent of it is cut in the course of manufacture into lengths less than 8 feet. Making due allowance for practical difficulties, it is estimated that the purchase of "shorts" could be increased to 45 per cent or more than tripled.

The old "bugaboo" of standard thickness for boards again came to the fore, i. e., Is a board "standard" when it is 25/32 inch thick or when it is 26/32 inch thick? No agreement was possible although the general opinion seemed to be that a single standard should be adopted in preference to a double. The conference finally referred the question to the Laboratory and a representative committee of the building trade for further study with the understanding that a definite recommendation would be forthcoming at the next annual meeting, one year hence, and that in the meantime the double standard should continue to apply.--F.J.C.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Fire Conditions Show Improvement Over Last Year: The D-1 fire report for the period ending May 31 bears a total of 33 fires, mostly on the Idaho Forests. Twelve of these fires were caused by lightning, a rather unusual occurrence so early in the season. The total area of National Forest land burned over is 117 acres, and the cost of suppression is less than $600. This is in striking contrast to the condition this time last year, when 85 fires had occurred, with more than 5,000 acres burned over and with expenditures in excess of $40,000.

During the last two weeks the District has been visited by general rains, and the situation is excellent, with no probability of serious fires until after July 1. In this connection it is interesting to note that a long range weather forecast made at the Northern Rocky Mountain Forest Experiment Station by a statistical method predicted in March that this spring would be wetter than last spring, with about a normal precipitation in April, more than normal in June. April and May checked out as ordered, and a good general rain has already occurred in June. The forecast has not been given out officially, but it holds out promise that a scientifically analyzed record of what has happened in previous years may be a much better index of coming weather than someone's memory used in formulating a guess.

- - - - - - -

If You Haven't Heard of the Kettering Oak - here's your chance.

The Pennsylvania Department of Forests and Waters says:

"The historic Kettering Oak, 2,000 years old and 47 feet in girth, has been removed from the estate of the Duke of Buccleuch of Scotland and is on its way to the United States. It will adorn the country home of an American millionaire."

Now, why didn't he see America first and get a Sequoia 3,000 or 4,000 years old from D-5?

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Stronger Tone in Cattle Demands: While market conditions have not changed materially, there seems to have developed in various parts of the District a stronger demand for cattle grazing, as a result of easier money with which to finance the cattle operations. At the same time very good prices have been paid for such stock cattle. For 2 or 3 years past, the cattlemen have been thinking strongly of changing to sheep and some have taken this step. This resulted in many requests to change our classification of ranges from cattle to sheep, and a very liberal policy has been followed in this where the ranges have been well adapted to both classes of stock or where there has been class overgrazing. At the same time, the attempt was made to give full consideration to the possibility of cattle coming back, for the reason that cattle uses of the forest more nearly fit into private land uses and commensurability factors, and the policy of the District is to make the Forests contribute as much as possible to the support and stability of land holdings and improvements. In view of the present tendency in cattle, we are therefore beginning to follow a more stringent policy in changing cattle ranges to sheep. During the cattle depression many operators have been practically wiped out and creditors have taken over their land holdings. These creditors are making every effort to salvage the indebtedness on these properties and are making a pretty insistent demand for National Forest grazing privileges, even in many cases exceeding demands made by the original landowners. Another result is a pretty definite feeling by these creditors and by cattlemen who have been leasing ranch properties for hay production, that we should give almost if not fully as much consideration to parties who lease ranch properties, produce the feed, and feed it to the livestock, as to those who actually own the property and produce livestock. This is contrary to long-established policies and principles of the regulations, but there are some who desire National Forest privileges who feel so strongly about it that they are planning to state their case to the Secretary in the hope of getting a more liberal interpretation of the policy on this point.

It is true that stockmen who have had a minimum ownership in land have been able to weather the depression much more satisfactorily than the men who have had large investments of ranch property with its taxes and interest burden. In cases of close decision, that has only emphasized with us the need of giving first consideration to those who own ranch property.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

The Public Responds:

Public sentiment in favor of fire suppression is fast increasing. That we are gaining the moral support of Forest users is evidenced by the voluntary cooperation received on two fires on the Apache Forest recently. One of the fires started in the high grass and pine needles, making a very heavy volume of smoke, which attracted the attention of settlers and stockmen in that part of the Forest. The Ranger left for the fire with two men and was joined at the fire by 14 others who had sighted the smoke and came to it voluntarily. Due to the high wind prevailing and the inflammable condition of the ground cover, the cooperation of these men spelled the difference between a Class B and Class C fire. Later another fire near the Springerville-Ft. Apache Road was discovered by an automobile tourist who stopped his car and promptly went to work. A few minutes later permittees and a picnic party from Springerville joined in the fight. Counting men and women, there were 12 persons fighting the fire within a half hour after its discovery, and in spite of a 40-mile gale the fire was held to a Class B and was under control when the District Ranger arrived. Both of these fires were started from lightning struck trees which had smoldered for two days following an electric storm, and were fanned into flames by the high winds. The cooperation received in these two cases was indeed timely and very much appreciated.

- - - - - - -

Ranger and Dog Bag 18 Porcupines: It is not meant that they actually put them in a bag but Ranger Wang of the Carson and his dog, Crook, found and killed 18 porcupines in six days in the course of regular work. One day they got eight.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Secretary Jardine Visits Us: Secretary of Agriculture William M. Jardine visited us a few days ago. He arrived in Ogden at 7.00 a. m. and was met by a delegation representing the Department of Agriculture and other organizations, as well as personal friends. He was breakfasted at the Weber Club, where 125 guests from Ogden and other parts of Utah were in attendance. Brief speeches were made by various local men representing different interests. Attorney Devine of Ogden presented the Secretary with a cowboy sombrero, so that he would be properly equipped to ride the bronco as promised. His assistants, Mr. Russell and John T. Caine III were also given similar hats. The Secretary spoke at considerable length. Following a few reminiscences of college days in Utah he came out with a straight from the shoulder talk on the agricultural situation as it exists in the western mountain country and what can be done to remedy it. He stated in unmistakable terms that the biggest part of the remedy lies in local efficiency and agricultural skill. He would put agriculture on a sane basis of high productivity and improve markets through cooperation, and through a deliberate general upbuilding of local industries and communities to make better local markets. He stated that adjustments of freight rates and similar legislative action might serve as shock absorbers to immediately alleviate some of the outstandingly bad situations, but that fundamentally the salvation of agriculture in this region, as well as elsewhere in the United States, lies in sound agricultural economics.

Following the breakfast he inspected the Bureau of Public Roads and later the Forest Service, where he gave a brief talk to all of the office force assembled in the District Forester's room. He emphasized the fact that the Department of Agriculture is primarily a field organization and that the real work of the Department is being done away from Washington. The Washington office is just the grease that makes the wheels go a little easier. The job throughout the Department, whether it is in the Forest Service or elsewhere, is to cooperate and be helpful. We are not a regulatory force, designed to jump on somebody for doing wrong and put them in the pen. The work of the Department depends upon being friendly and helpful to all those we come into contact with in our official work. He assured the force of his help in Washington in doing anything to assist in putting over the objectives of the Forest Service in the field, and assured us all of his aid in making working conditions as pleasant as possible within the Department.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Forest Insect Investigations: During the fiscal year 1926 the Bureau of Entomology and the Forest Service do not plan to undertake any new insect control projects in California. It is believed that the available funds for insect investigations can be used to best advantage in carrying on studies for the purpose of learning the causes which operate to bring about advance and recession of forest insect epidemics. A study will be made of insect conditions on cut-over areas in order to discover, if possible, the influence of site, rate of growth, and other similar factors in connection with insect attacks. Recent studies on Sierra cut-over areas indicate that bark beetles show a decided preference for slow-growing trees which, prior to cutting operations, were more or less suppressed. It is hoped that it will be possible as a result of these studies to correlate insect control work with silviculture on cutting areas through selecting trees for cutting which would be most likely to be attacked by beetles if left standing.

In addition to conducting these special studies the Bureau of Entomology plans to examine certain badly infested areas which were reported last fall by the Forest Supervisors.--C.E.D.

- - - - - - -

Spaulding Reservoir Full to Brim Breaks "Spill" Record: Lake Spaulding on the Tahoe Forest, largest reservoir of the Pacific Gas and Electric Company system, "spilled" on the morning of April 25 for the first time since May, 1923. In average years the lake does not fill until May, the date varying from May 2 to May 21. Last year it did not fill at all, but this year the "spill" was a week ahead of the record of recent years.

The big reservoir now contains 75,000 acre-feet of water, or enough to supply the city of San Francisco and all its people for approximately two years.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

The Activities of the Forest Service in eastern Lewis County on the Rainier Forest have recently attracted more than local interest. The planting work, which has been in progress on the Cispus Watershed during the last five years, was visited recently by officials of the Weyerhaeuser Timber Company and also by County Fire Warden Merrifield, Snohomish County. The company was interested to see the success which attended this reforestation work with the view of considering its practicability on some of its own holdings.

Mr. Merrifield, who was engaged by the town of Sultan to plant up the watershed from which that town gets its supply, came to the Cispus Camp to get an idea of how the work was accomplished.

-------#-------

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 26. Washington, D. C. June 29, 1935.

TO OUR SUBSCRIBERS

Lest you think our calendar does not jibe with the dates on the last two issues of the SERVICE BULLETIN, ye Editor hastens to explain that the issues of June 8 and June 15 were delayed by a mix-up in the Department's mimeograph section. Hence the issue of June 22 reached our subscribers ahead of the two issues mentioned above. Impatient subscribers may recover their subscription money if they know of any way to turn the trick.

CONSERVATION AND CLIMATE

By Aldo Leopold, Forest Products Laboratory

In the timber mechanics section of the Forest Products Laboratory lies a pile of Rumanian red spruce, sent us by a piano manufacturer in connection with some experiments to devise a resonance test for musical instrument wood.

One look at these spruce boards is enough to make a forester's mouth water. They are quarter-sawed with mathematical precision, absolutely clear, and the fine annual rings are so uniformly spaced that variations in annual growth could be detected only with a micrometer.

I know nothing about the climate of Rumania, but it seems to me these spruce boards tell a long story about forestry and climate. It is hardly conceivable that such wood could be grown in the United States, because of the periodicity of our climates. The two major curses of conservation in America - fire and overgrazing - are both directly accentuated by that periodicity.

Everybody knows that fire is deteriorating the forest resources of the whole country. A few are beginning to know that in whole regions like the Southwest overgrazing is by way of ruining most of the resources that are not underground and out of reach of livestock. No small fraction of the destructiveness of fire, and in the Southwest practically the whole destructiveness of grazing is due to climatic fluctuations or "bad years." Conservation, in so far as it exists, tends to be organized for the normal year, and in the Southwest at least the normal year seems almost literally a myth.

We are learning to forecast fire weather, to predict overgrazing, and to measure seasonal readiness of ranges, but is it not time for foresters to help turn the searchlight of research on climate itself? It is a big order to be sure, but most of the wise men who are so ready with their "It can't be done" are quite unaware of what already has been done by men like Douglas and Huntington. There seems to be in the offing a chance for endowed forest research of a really fundamental character. What more suitable subject than the climate that makes the drouths that ruin the forests?

--------#--------

SHORTLEAF PINE - A PROFITABLE CROP

By W. R. Mattoon, Washington

Concrete examples of the money returns from growing southern pines are, fortunately, getting increasingly numerous. It is helpful to have estimates of what can be grown and the profits to be expected, but definite illustrations are far more effective in getting action in the growing of timber as a crop.

E. A. Spainhour of Burke County, North Carolina, has contributed a piece of valuable information on the profit from naturally seeded shortleaf yellow pine (*Pinus echinata*). In a stand of pine which, he says, had come up in an old pasture twenty-five years ago, he cut and sold the timber on a tract of three-quarters of an acre. The amount cut was 30 cords, or the equivalent of 40 cords an acre.

The wood sold for $5 a cord, or $200 an acre. Mr. Spainhour, who is a forest warden in the employ of the State Forest Service, Department of Conservation and Development, kept a cost account of each step of the operation. The cost of cutting was $1.25 per cord, and of hauling to market $1.25, or a total of $2.50 per cord. The profit was thus $100 per acre over the period of 25 years - $4 per acre a year - not at all bad for worn-out pasture land.

The location of Burke County is in Western North Carolina where the Piedmont Plateau merges into the foothills of the mountains. The rate of growth is likely somewhat slower than that at lower altitudes, but 40 cords in 25 years is an average growth of one and three-fifths cords yearly. The full yearly money return to the community is found by adding the $4 yearly increment in stumpage to the $4 in labor required to cut and haul the timber. Thus the tract devoted to timber production meant an average money value to the community of $8 a year. "Not a bad showing," says the owner, "when one considers that the trees established themselves naturally. I was not out a cent for seed or labor to grow the crop. My little trees are worth protecting from fires."

-------#-------

"DOGGIN' 'EM"

By Verne Rhoades, Pisgah

Twice during the past year bloodhounds have been used on the Pisgah in an endeavor to apprehend persons guilty of setting fires on that Forest. On the first occasion the opportunity for the dogs to pick up the trail was exceedingly good. The first-comers to the fire arrived in time to find that the last set which was made by the incendiarist had not yet burned a large enough area to obliterate the tracks. Within a few steps of the circumference of the fire they found footprints in the soft earth. These tracks were temporarily protected with some brush and sticks until the hounds could arrive. When the dogs came about 3 hours later they had no difficulty in picking up this trail and following it for a mile or so through the Forest over the dry leaves and down into the public road. They tracked without difficulty for a mile or more down the public road to a bridge across South Hominy Creek. There the trail was lost because the man had gotten into an automobile, which was evidently waiting for him.

On the second occasion, which was during March of this year, seven fires were set almost simultaneously in the heart of the Bent Creek Working Circle. The fires were apparently set about 7.30 p. m. The hounds reached the fire about 10 o'clock, and picked up the trail of one or more men without difficulty. As in the first case they tracked these men to the public road where they had entered an auto and gone out of the Forest. No opportunity of tracking the automobile existed because hard-surface roads parallel the Forest boundary, and once the auto leaves the dirt road all chance of following it is lost. Without doubt the seven fires referred to were set by more than one person because they sprang up almost simultaneously. If the hounds had been taken to one of the more remote sets at first it is possible that they might have done more good and even apprehended the guilty persons, because two men were observed coming from the direction of the Forest by a party of fire fighters later on. Unfortunately, no one in the band of fire fighters knew either of the two men and up to date no worth-while evidence has been obtained. However, if the dogs had been on the trail of these two men early in the evening they might have done more successful trailing.

It is believed that dogs could be successfully used in a majority of instances of incendiarism, provided some method of patrol were instituted along the roads paralleling the Forest boundary or entering into it. For example, if the Ranger were to call for the dogs upon receiving a report of the fire which the Lookout has reason to believe is of incendiary origin, it would also be a good plan to call out certain key men in the community who were not on fire suppression to start out on patrol of the roads near-by to make note of any observances of suspicious characters or automobiles that might pass. In such instances if the patrolmen could find anyone it would not be out of the way to take the dogs to these people and see what their actions were.

One great drawback to the use of hounds heretofore has been the heavy expense connected with their employment. In this locality they cost $50 a trip, whether the trip is a couple of hours or a day. Where they are not successful in running the incendiarist to earth the expense mounts up rapidly. If the Service could make provision for the employment of dogs from time to time so that Forest officers in the field would feel more free in employing them it might be well worth while.

So far as the sentiment aroused in the minds of the local people is concerned with reference to the use of dogs, the Forest officers on the Pisgah have not observed any bad reaction. All the good citizens everywhere, both in the country and in town, would be glad to see the guilty ones run to earth.

Since the above paragraphs were written we have used the bloodhounds a third time. As on the two former occasions no trouble was experienced in picking up the trail of a man and a woman and running them to a house. But no one was at home at the time. However, we may be able to get evidence enough in this case to secure conviction.

--------#-------

THE RIVER'S VINDICATION

By F. W. Nash

It's true I've gone on the warpath,
I've smitten your cities and homes,
I've cracked the walls of your stately halls,
I've threatened your spires and domes.

I've spoiled your gardens and orchards,
I've carried your bridges away,
The loss is told in millions of gold;
The indemnity you must pay.

But had I not cause for anger?
Was it not time to rebel?
Go, ask of the springs that feed me;
Their rock-ribbed heights can tell.

Go to my mountain cradle,
Go to my home and see,
Look on my ruined forests
And note what ye did to me.

These were my sylvan bowers,
My beds of bracken and fern,
The spots where I lie and rest me
E'er to your valleys I turn.

These you have plundered and wasted,
You've chopped and burned and scarred,
Till my home is left of verdure bereft,
Bare and lifeless and charred.

So I have gone on the warpath;
I've harried your lands with glee.
Restore with care my woodlands fair
And I'll peacefully flow to the sea.

Reprinted from "Canadian Life and Resource," Montreal.

-------#-------

WASHINGTON NOTES

Resolution on Forest Road Work: At the annual meeting of the Chamber of Commerce of the United States held in Washington on May 19, 20, 21 and 22, the following was one of the resolutions which were adopted:

"Forest Highways - The National Forests, especially those in the Western States, because of their great extent and location, include many of the most important mountain passes; they practically surround and control access to our national parks and interpose large areas of land under Federal control between sections of our States held in private ownership. Roads into and across these vast forest areas are required not only to protect the Government property in the forest from the constant menace of destruction by fire but also to give access to the national parks, to enable private property to be reached and to complete highways available to inter and intrastate traffic. It is the duty of the Federal Government to provide these roads.

"Congress, therefore, should continue to appropriate needed funds, within the limits of a reasonable national budget, for the improvement of such forest highways, under the supervision of the Secretary of Agriculture."--T.W.N.

- - - - - - - - - -

Tom Gill left for a Public Relations inspection trip to Districts 1, 2, and 4, with a side trip of several days to District 5. He expects to be gone about two months.

- - - - - - - - - -

FOREST PRODUCTS LABORATORY

Trial of Preventives for Termites: Fifty sap pine specimens 2" x 4" x 2½" in size were prepared for cooperative preservation experiments with the U. S. Bureau of Entomology. These specimens will be treated with mixtures of gas oil and various organic arsenic compounds furnished by the Chemical Warfare Service. The Bureau of Entomology will expose the treated material to the attack of white ants to determine the relative value of the different arsenic compounds as a protection against these insects.

- - - - - - - - - -

Brashness - White Oak: A determination of ash content for 100 brash and tough oak specimens showed that the 51 brash specimens averaged 0.60 per cent ash against 0.34 per cent in the 49 tough specimens. Others have observed that herbaceous plants grown under poor conditions had larger amounts of mineral than those more fortunate. Dr. Gerry in her micro-chemical analysis noticed more crystals in the brash specimens than in the tough. Those specimens having a high ash content, over 1 per cent, were confined to a group of boards in which all ash percentages ran above the average. These observations coincident with the low percentage of wood fibers support the idea that the brashness in many cases is due to the effect of poor growing conditions.

FOREST EXPERIMENT STATIONS

"Memorandum for Forestation" - Longleaf and slash seedlings just germinating and others about one month old in beds covered (after sowing) with ¼ inch of pure fine sand were left uninjured by severe frost heaving in December 1924. In this case the ¼ inch layer of loose sand was lifted about an inch without disturbing the soil proper or seedlings.

In December, 1923, longleaf and slash seedlings of the same age in beds covered with ¼ inch of ordinary soil were lifted one to two inches by frost heaving at similar temperatures and moisture conditions.

Results of experimental work in 1924 with pure sand as a covering for seed indicate that it acts as a mulch conserving moisture of the soil beneath, retards germination of weed seeds, and offers conditions unfavorable to the development of damping-off fungi. Now comes evidence of its protection against frost heave. Here is something that seems to approach a simple panacea for all ills of nursery practice.--E.W.H., Southern.

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Cooperation with the Boys: A good deal of trouble has been experienced in and around Keystone, S. D., with boys setting fires through carelessness with matches and camp fires. Soon after Ranger [illegible] was assigned to this district he started a movement to organize the boys of that community into a body which they call the Junior Rangers. Through this organization he has been able to keep in close touch with the boys and has created a great deal of interest among them, and through them he has increased the interest of the older people in Keystone.

- - - - - - - - - -

American Forest Week Reaction on the Grand Mesa: As a result of the meeting with the Chamber of Commerce at Palisade, a fire organization of fifty men divided into squads with leaders was perfected. These men are to be ready to leave within thirty minutes of a fire call, and the fire alarm is to be sounded the same as for a fire in town.

- - - - - - - - - -

DISTRICT 3 - SOUTHWESTERN DISTRICT

"Bell Mare" Goes Home to Glory: She was a faithful member of the District 3 Forest Service forces, was "Bell Mare." For several years her important and sole duty has been to wear a bell and by its jingling keep together the wayward mules used in grazing reconnaissance when they were turned out to graze. She did her work well and always held the mules regardless of their wanderlust and proclivities to stray from paths of rectitude. But reconnaissance work has been modernized and mules replaced by motors. The mule herd has been distributed among the forests and only "Bell Mare" alone was left. "Bell Mare" was old, too old to be turned out to forage for herself, and no kind asylum was offered her, no, not even for her feed. So a gentle bullet ended her days of toil and sent her home to glory.

- - - - - - - - - -

It was Truly a Hard Winter: That the past winter was extremely hard on livestock is amply borne out by the following statement of a permittee: "Cows died this year that never died before."

- - - - - - - - - -

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Elks go on Record for Forest Protection: At the State convention held at Eureka, Utah, June 5, a resolution was adopted by the Ogden Elks, calling for the Elks to unite in helping to save the forests. The Utah Elks, in accordance with this resolution, will make an attempt to have the national body take action at their forthcoming convention at Portland, Oregon, and put the order in line in favor of forest preservation. The Portland lodge has already expressed itself as favorable to the proposition.

- - - - - - - - - -

Fishlake Holds Unique Grazing Record: In the course of an inspection on the Fishlake, three matters were discovered in which the Fishlake doubtless holds the District record. (1) The Fishlake has not lost one cent on grazing fees since the war. (2) On every cattle district on the entire Forest the cattle are tagged or excess cattle are pushed. Approximately 30,000 cattle are grazed on the Fishlake. (3) One Ranger pulled off a unique proceeding with entire success this spring. Early in the spring he notified all permittees that he and the Secretary of the local graziers' association would meet the stockmen at a designated point on a certain date, and that all grazing fees due, together with the necessary association fees, should be paid there at that time. The plan worked perfectly and all fees were paid up at once.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Hats Off to This Old-Timer: Not all the "Old-Timers" are in the U. S. Forest Service. Here is the record of a Ranger in the Bureau of Forestry, Philippine Islands, probably unequalled by any Forest officer in this country.

Ranger Cornelio Noble Jose entered the Forest Service of the Spanish Government in the Philippine Islands in October, 1883, and served in that organization continuously for a period of 14 years. In June, 1903, after holding the high office of Municipal President of the Pinamalayan for three years, he again passed a Civil Service examination for Ranger and entered the Philippine Bureau of Forestry. He was assigned to the Island of Mindoro, where he has served continuously to the present time - a total service as Forest Ranger of 36 years.

- - - - - - -

RANGER BILLETS-DOUX

Sue Swift was a steno.,
A lovable lass,
Who never permitted
A good date to pass.

While Sarah V. Dumbell
So very sedate,
Had never been known to
Stay up after eight.

But one fine spring morning,
With much work to do,
The Boss found that Sarah
Had just "up and flew."

She 'loped with the Chief Clerk,
While poor Sue did weep;
Which all goes to prove that
Still water runs deep.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

To Study Reforestation for Oregon: A State reforestation commission, consisting of four members, has been appointed under the provisions of the last State Legislature at Salem. The duty of the commission is to study and report on a far-reaching State Forestry Policy with especial reference to timber taxation. They are to recommend to the next Legislature such methods of reforestation as they believe best, and prepare bills carrying out these ideas and recommendations.

The commission consists of: State Senators Bruce Dennis and Russell Hawkins, and State Representatives E. G. Bates and R. H. Chapler.

- - - - - - -

Efficiency: One of the protective force on the Snoqualmie Forest, writing of the various activities of the Forest Service, said: "A ford goes 20 miles on a gallon of gas, but a Forest Ranger can go 45 miles on a hot cake."

-------*-------

DISTRICT 7 - EASTERN DISTRICT

Mount Mitchell Tower Wrecked by Storm: The steel lookout observatory on the crest of Mount Mitchell, North Carolina, erected last summer by the State and used as a primary fire lookout by the State and Pisgah National Forest forces, was blown to the ground during a storm last winter. It is estimated that to salvage what is left of the observatory and reconstruct it will cost perhaps $1500.

In reporting the wreck of this tower, Supervisor Rhoades states that the concrete pillars held intact and that the angle corner posts bent right near the top of the concrete.

- - - - - - -

Who Wants This Applicant?--The Ozark sends in the following extract, copied verbatim, from a letter asking for a job:

"I am almost brock down, or knocked out as it were, from rheumatism, or kidney diseases, or something on that line, and I believe I could be worth something to you or the Forest services, as stated, and not able to do much else. So, I write you to know if you could give me something to do, that I could earn a little bit for myself, and be of benefit to the service."

-------*-------

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 27. Washington, D. C. July 6, 1925.

STEREOPTICONS VS. SHOVELS

By Jno. D. Guthrie, D-6

Mr. Headley says (SERVICE BULLETIN of June 1) "our job is not to reduce man-caused fires per thousand people using the Forests; it is to reduce man-caused fires."

Our job, as I see it, is to reduce man-caused fires per man, per thousand people, per million people, so long as the number of fires is reduced.

According to Headley's reasoning, if the National Forests were visited in 1925 by 100 million people (each a possible fire starter), and the total number of man-caused fires remained at 4826 (1924 figure), he would say that fire prevention had failed. Public education might have converted 99,995,174 of these Forest visitors to be careful with fire, but still fire prevention would be a failure - which shows what wonderful things fire figures are!

The chances of fire starting are increased every time a human being enters a Forest. The more human beings entering a Forest, the greater the likelihood of a fire. For every thousand additional Forest visitors the chances of fire are increased by a thousand, UNLESS all or a part of the thousand have been "sold" on care with fire.

The number of Forest visitors has jumped up year by year and will continue to jump, and the number of fires will increase UNLESS we wake up

(1) To the fact that the public must be educated,
(2) That tools, towers, and telephones, alidades, axes and asimuths won't educate the public to be careful with fire in the woods.

It's going to take time, effort, and most of all MONEY to pay for advertising, for motion pictures, for stereopticons, for lantern slides, for talks. Modern business uses these modern media and uses them in abundance. We, on the other hand, put our trust in the physical things, never seeing the mental fire. We freely spend $6,000 for shovels and grudgingly $60 for one stereopticon.

-------#-------

TRY THIS ON YOUR INCREMENT BORER

By Will Barker, Superior

Increment borers can be sharpened with jewelers' files so that they will cut "as good as new." I use a #3 flat and a #4 rat-tail, both Swiss-made files, which may be obtained through any jeweler and are inexpensive.

Most of the work is done with the flat file, but the rat-tail is necessary to touch up the inside of the cutting edge. In doing this, care must be taken that this edge is not beveled on the inside, or the core will be too large and make the instrument difficult to operate.

In using the flat file on the outside of the cutting edge and on the threads, it is necessary only to avoid changing the general shape of the part being filed and to file off as little as possible. That is, do not reduce the height of the threads any more than is absolutely necessary to sharpen them.

I presumed that everyone knew all this, but Ward Shepard of the Washington office recently told me that some increment borers had been sent to Sweden for sharpening and asked me to pass along this information. (On the Superior Forest we have to keep our instruments, etc., in shape while "in the field" - Sweden is too far away.) A rifle cleaner (ramrod type) is convenient for cleaning and polishing the inside of the borer.

-------#-------

ANOTHER EFFECT OF HIGH RELATIVE HUMIDITY ON FOREST FIRES

By H. T. Gisborne, Northern Rocky Mountain Exp. Station

One might suppose that high humidity would reduce the rate of spread of forest fires only by adding moisture to the fuels. A similar and coincident action seems possible, however, which may produce the same effect as the addition of moisture to the fuels, yet the result may not be caused in that way, or be caused even by the humidity. The effect may, instead, be caused by the meteorological conditions which cause the high humidity.

A forest fire is the transformation of a certain relatively small volume of solid material into a much larger volume of gas by the process of flaming combustion. This extremely rapid change of state and volume requires the rapid removal of the tremendous volume of newly-formed gas as fast as it is created. If any conditions act to retard that removal the transformation from solid to gas (combustion) is hindered. As an example, the active burning of oven-dry material may be stopped by enclosing the whole in an air-tight container, which prevents both the removal of the newly-formed gas and the influx of fresh air and oxygen to assist the transformation. Which of these processes is the more important - the stopping of escape of gas, or the stopping of the supply of oxygen - is not definitely known to the writer. Probably anything that stops the removal of the gas will also prevent the influx of oxygen. In any event, the action is a smothering one, leading to slower burning.

Dr. C. G. Simpson, Director of the British Meteorological Office, states that "the meteorological conditions which are necessary for the formation of fog (very high humidity and generally very low wind velocity) are such that while they last smoke cannot get away either vertically or horizontally from the place of its origin." Hence it seems reasonable to believe that the meteorological conditions which produce high humidity may also tend to smother forest fires by hindering the removal of the newly-formed gas, by hindering the influx of oxygen to aid the process of combustion, and by supplying more moisture to the fuels and so reducing their inflammability.

If this theory and deduction is correct, the measurement of the humidity of the air has been used as an index of both the water in the air active in moistening the fuels, and the smothering action of the meteorological conditions prevailing at that time. It may be that those examples of the most pronounced quieting of forest fires during high humidity have been due both the moistening of the fuels and to a possible stifling of the process of combustion, while those contradictory examples of high humidity and very little quieting of the fire have occurred when the meteorological conditions were not such as to aid the quieting by stifling combustion.

-------#-------

WAS HORACE RIGHT?

By Daytonius, Washington

Dr. Shantz of the Bureau of Plant Industry, familiar to most SERVICE BULLETIN fans as author, explorer, plant geographer, ecologist, and physiologist, has recently returned to Washington from one of his numerous peregrinations through the Dark Continent. In the course of a recent conservation he gave out this interesting note on tree introduction:

"In the Cape Town region of South Africa the English oak (*Quercus robur*), Italian stone-pine (*Pinus pinea*), Swiss stone-pine (*P. cembra*) and cluster pine (*P. pinaster*) have been introduced and are driving out the native vegetation, and they grow so fast in their adopted home that they are now being cultivated instead of *Eucalyptus*."

All of which reminds one of the English sparrow and the starling in the United States, the rabbit and the cactus in Australia, and Kentucky bluegrass (and the Monterey pine?) in New Zealand. Washington Irving showed Rip Van Winkle more at home in his neighbor's than in his own backyard. Can it be that there are trees and forage plants, perhaps unhonored and unsung in their native haunts, which, transported to this country, would beat any of our native species at their own game?

Horace once exclaimed: "Caelum non animum mutant qui trans mare currunt." However, did Quintus Horatius Flaccus have the right dope or was he a bit balmy in the bean?

-------#-------

WASHINGTON NOTES

A Bouquet from a Business Man: Mr. Abram Gale of Chicago is what our popular magazines would probably describe as a "hard-headed business man." Such a man is commonly supposed to be devoid of sentiment and all that sort of thing. But Mr. Gale is one business man, at least, who is not afraid of throwing a bouquet. In a recent letter received from him he said:

"After having had the experiences our party had with the Forest Service men last August (Mr. Gale and his party were touring in the West) I venture to make a statement. The wonderful spirit of the Rangers, the Lookouts, the Smoke Chasers, and even those at work on the trails, was such that it was transmitted to all of us. When we were told "no smoking on the trails" we not only did not smoke but we made sure that no one else we met up with did. In my business I rather pride myself on the loyalty of those under me. How much greater your pride must be in having such men as you have in the Forest Service. You should remember that about the only contact your department has with the public is through your field men."--M.H.

- - - - - - -

Wright Leaves on Inspection Trip: M. S. Wright, Assistant Engineer in the Branch of Engineering, left on July 1 for New York to consult with the Fairchild Aircraft Corporation regarding aeroplane surveys. From there he will proceed to the West, where he will make an office and field inspection of surveying and mapping activities in Districts 1, 2, 4, 5, and 6. It is expected that Mr. Wright will be in the field for a period of at least six weeks.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Rancher Should Have Tied Up His Dogs: A recent court case at Tuscon, Arizona, was watched with interest by stockmen. A ranchman named Nelson brought suit for damages against the County Agent, the Director of Predatory Animal Control of the Biological Survey, a predatory animal hunter, and another ranchman on account of the death of two Airedale dogs that ate poison distributed for coyotes. According to the verdict of the jury, the owner of the dogs was guilty of contributory negligence in not tying up his dogs after being notified that Government hunters were putting out poison for coyotes.

The evidence showed that the ranchman named in the suit requested the County Agent to have Government hunters come to his place and distribute poison to stop coyotes stealing his turkeys. Acting on the request, M. E. Musgrave, Director of Predatory Animal Control for the Biological Survey, sent a hunter last fall who put out poison and notified the neighbor, Nelson. Nelson, however, did not confine his dogs, and, after two days, they were found dead. The plaintiff contended that, while both State and Federal laws authorize the destruction of predatory animals, the use of poison is not specifically mentioned as a method and is, therefore, not permitted. The defendents showed that, after years of experimentation, poisoning has been found to be the only effective means of coping with animals as cunning and as intelligent as coyotes.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Working Plans and Public Relations (The Echo): The article by Mr. Kittredge in the SERVICE BULLETIN of April 13 deals with an epoch-making discovery. The evolution of management plans has indicated very decisively, throughout D-2, that forestry expressed in concrete figures is much easier to sell than forestry expressed as an abstract idea. A merchant of Custer, S. D., one Hanley by name, paid good money for space in the Custer Chronicle in which the following was printed:

> "Harney Forest under the present sustained yield plan will produce 15 million board feet of lumber annually if fire is kept out. Hundreds of woodsmen and their families are employed in harvesting this annual crop. For 35 years this store has served these men as a supply base. We are here to serve them in the future as we have in the past. Do your part. Help prevent forest fires and keep the lumber industry alive.--W. F. Hanley, General Merchandise."

- - - - - - -

Tie Treating Plant Proposed for Salida: The establishment of a tie treating plant at some point in Colorado, probably at Salida, seems assured. This should be a very important development from a timber utilization standpoint, as the D. & R. G. W. Railroad uses about a million ties annually. Development of a tie business in this part of the District will fit in admirably with the demand which exists for small material in the form of mine props for use in the coal mines. Heretofore, there has been a good demand for mine prop material in this Salida region, but it has been difficult to arrange for the utilization of larger products in many cases.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Hot Trails: Justice works fast in some localities. It is not a cold trail that leads from a forest fire to jail in three days. Belvo Basvorena, sheepherder, was responsible for one of the Long Canyon fires on the Datil Forest, May 15. There were two Long Canyon fires but the second is another story. Ranger McPhaul prosecuted Basvorena before Justice of the Peace Evans at Beaverhead on May 17. A sentence of $25.00 and costs or 25 days in jail was pronounced by the Justice. In default of payment of fine, Basvorena was committed to the Catron County jail. Basvorena's narrative can be repeated, and it will almost fit another Datil fire. Vatrocinio Jiron, another sheepherder, was responsible for the O Bar O Mountain fire of May 12. Same Ranger, same court, same day, same fine, same costs, same jail. Elapsed time, fire to jail, five days. Now about the other Long Canyon fire. Telesfor Chavez, sheepherder, took an even warmer trail. He abandoned job, personal effects, and vicinity immediately upon the breaking out of the fire. Warrant is in hands of sheriff, but Chavez is in other parts. It may be that he will come back för his belongings.

- - - - - - -

New Use for Clocks: "Bet the Crook force will hit the ball each morning on time this year," comments the Chief of Maintenance as he passes a voucher covering payment for cleaning and regulating two office clocks. One is an alarm clock- used, perhaps, to sound off at the end of the day.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Fire Weather Forecast for South Idaho: Plans have been perfected for securing forecasts of weather, especially fire weather, throughout south Idaho this season. Each day the Weather Bureau at Boise will telegraph to San Francisco information regarding the weather of the past twenty-four hours. Upon this and other information the San Francisco office of the Weather Bureau will prepare a forecast which will be wired to Boise, either in the evening or in the morning as desired by the Forest Service, and will cover the next twenty-four hour period. The forecast will include humidity, temperature, high winds, and other factors pertinent to forest fires. From Boise the information will be wired to Cascade, Salmon, Mackay, St. Anthony, and Kemmerer, Wyoming, from which points it will be gotten to the Forest officers needing the information.

- - - - - - -

Fire Cooperation by Rural Mail Carriers: We have noticed that the Post Office Department will publish in early issues of the Postal Bulletin and the supplement to the Postal Guide instructions to rural and star route carriers requiring them to report promptly Forest fires that may be discovered by them during the present summer.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Earthquake Destroys Santa Barbara Forest Office; No One Hurt: The Santa Barbara earthquake came close home when it demolished the offices of the Santa Barbara Forest. Very fortunately the office force escaped unscathed. The Forest offices occupied five rooms on the second floor of the Federal Building located on State Street, the city's main thoroughfare.

- - - - - - -

Campers: The following extract is taken from a letter written me by an old hunting friend, who has recently been camping on one of the National Forests:

"You ought to see the variety of tents and apparatus, no two alike - like women's hats. Some are too lazy to get wood and would rather have a fire alongside a tree trunk. They should worry! Some spread a tent on the ground flat, peg the corners, and then crawl under it with the ridgepole. Then there is a great upheaval; the tent labors and contorts. Sometimes the man gets the tent up; at other times the tent gets the man down; often they both go down together. About eight out of ten use gasoline stoves, one of which got afire and used up two blankets getting out the blaze. The campfire craze is somewhat abated on account of all the near-by wood and logs being used up. By the looks of things, if this bunch ever get loose in the dry grass they will burn the U.S. down."--L.A.B.

* * *

DISTRICT 6 - NORTH PACIFIC DISTRICT

"Stop Forest Fires" Again: Lynn P. Sabin, the live-wire Secretary of the Klamath County Chamber of Commerce, has again inaugurated the Stop Forest Fires Association campaign which was put over so effectively last summer. The dates were June 29 to July 4. The plan was to organize a Central Committee in each town or city in the State that has a Chamber of Commerce, and have the various Boy Scout troops, Campfire Girls, etc., take over the signing of memberships, with appropriate prizes for the largest number of signatures. Membership blank consists of a pledge to help prevent forest fires. There are no dues. The Oregon State Chamber of Commerce has endorsed the movement and is sponsoring it for Oregon. It has also been endorsed by the Western Forestry and Conservation Association, the State Forester, the Timberman, and the Forest Service. Governor Pierce, we understand, will issue a proclamation. It is felt that the campaign last year did a great deal of good in impressing the public with the need for care with fire just at the beginning of the camping season. It also makes an effective follow-up for American Forest Week. While this is distinctly a Chamber of Commerce activity and the Chambers of Commerce should get all the glory and credit for it, Forest officers are requested to endorse the movement, and give all possible assistance in making it a success.

California is planning a similar campaign for two weeks, July 1-15. The matter is also being brought to the attention of State Forester Joy of Washington, and Major Lively, Manager of the Washington State Chamber of Commerce.

Natural Reseeding of Denuded Areas in Douglas Fir may be a slow process sometimes. For seven years following denudation annual examinations of a line of sample plots stretching across the Wind River Valley from green timber to green timber 1½ miles shows satisfactory establishment of reproduction roughly at the rate of one chain farther from green timber for each year following the fire. On the river bottom and steep southwest exposure, where heavy brush cover developed more quickly, there is little or no restocking beyond the one chain line seven years after the last fire. Just how the seed was carried, and how far satisfactory reproduction will continue to creep out is conjectural.

-------#-------

DISTRICT 7 - EASTERN DISTRICT

Wild Turkey and Forest Fire Prevention: Ranger Woody of the Cherokee made excellent use of two old gobblers which he shot while on fire patrol. He telephoned to all of the fire fighters in the community, as well as some other local people, and invited them to a turkey dinner. While 40 people ate 30 pounds of wild turkey, Ranger Woody talked up fire prevention and cooperation. Needless to say, his guests were duly impressed with the need for fire prevention.

- - - - - - -

Business Men Help Build Camp: Hot Springs, N. C., is often referred to as the northern gateway to the Pisgah National Forest. Where the Dixie Highway leaves the town and enters the National Forest area a tourist camp is being established on National Forest land. The News Record of Marshall, N. C., comments on this enterprize in a recent issue as follows:

"Last week the Business Men's Club of Hot Springs set aside one day as "Work Day" at the camp. Mr. Jared, our forester here, has taken a great pride in beautifying this camp in that he has made beautiful fireplaces for the tourist ~~to~~ use in cooking. He has built toilets for both men and women, and made a very desirable place for tourists. The Business Men of the town have combined their efforts with Mr. Jared and are going to build a 12-foot concrete dam, damming up Silver Mine Branch for the purpose of a swimming pool. The town of Hot Springs is running a light wire from the plant into the camp, giving them the benefit of electric lights. This has one of the finest cold springs to be found anywhere in the country, and they have planned to concrete this spring up as a safeguard against germs. In fact, this will be one of the finest camps along the road of Western North Carolina."

-------#-------

DISTRICT 8 - ALASKA DISTRICT

The Canine Tractor: A team of five malamute huskies furnishes the motive power for transporting lumber from a sawmill on Grant Lake to the Alaska Railroad, over which it is shipped to local markets at Seward and Anchorage. The mill is situated on the lake shore, two miles from the railroad. It was constructed last fall, and so far there is no road connecting the mill with the railroad. During the past winter the operator, Al Sellers, delivered fifteen thousand board feet at the Moose Pass station on the railroad, all of which was hauled out over the snow and across the frozen lake by a team of five dogs. The loads averaged about 500 board feet, the average weight being approximately three-quarters of a ton. Last spring a Chugach homesteader in the same region used a dog team to do his spring plowing. Dogs have been used to advantage in a number of small tie sales.--L.C.P.

- - - - - - - -

Notes from the Chugach: In the interesting reports of Messrs. Carter and Norcross covering their visits to the Chugach last summer, Mr. Carter refers to the Chugach as the "orphan child" of the Forest Service, stresses its isolation from Washington and District headquarters, and its transportation difficulties. Mr. Norcross was particularly struck by the contrast in Forest Service dwellings with the palaces constructed by other Departments of the Government. It has always been difficult to get any sort of a presentable building on the Chugach and keep within the building limitation. Common rough lumber runs from $38 to $60 per M at the mill, and finish lumber from $85 to $150.

- - - - - - - -

According to latest information, the Chugach will be visited during the 1925 season by Messrs. Headley and Squire of the Washington office, and Messrs. Flory, Merritt, and Heintzleman of the District office.

-------#-------

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 28. Washington, D. C. July 13, 1925.

"LET THE SNIPES FALL WHERE THEY MAY"

(A Farce In Five Acts)

By H. T. Gisborne,
Northern Rocky Mtn. Experiment Station

Act I. (In the December 15 issue of the SERVICE BULLETIN.) Some evidence was presented to indicate that tailor-made cigarettes might not be as dangerous fire starters as some propaganda would have us believe.

Act II. (In the February 9 issue of the SERVICE BULLETIN.) Mr. "California" Hutchinson replied under the heading, "Let the Snipes Fall Where They May," and intimated that our evidence was no good, that our snipes were not as hot as, nor our oven-dry duff as dry as, California snipes and duff. And he stated that the statistics of the National Board of Fire Underwriters show that 26 million dollars worth of property was lost in 1923 due to "Smoking-Matches," hence that tailor-made cigarettes must be - well, he leaves that to your imagination.

Act III. (In the March 5 issue of the DAILY NEWS of the Intermountain District.) It was presented, so that he who runs may read, that because a rafter passing through a chimney did not catch fire and burn up the house when fires were built in a stove having a flue leading into that chimney, therefore, consequently, and know ye by all these presents, said evidence concerning tailor-made cigarettes is no good and "something is crooked somewhere." The statistics of the National Board are again quoted to prove something, not entirely clear.

Act IV. (Page 128 of the March 28 issue of the Saturday Evening Post.) The oldest American Fire and Marine Insurance Company stages this act at the cost of prevailing full-page advertising charges in the Post, to state that, "IN THE FIREMAN'S ROGUES' GALLERY THE MATCH IS [illegible]." And they use the statistics of the National Board to prove it. Funny they said match instead of tailor-made cigarette, isn't it? Maybe this fire insurance company does not appreciate the perils of the perfect pill.

Act V. "Let the snipes fall where they may," but let's join forces with the fire insurance companies instead of the anti-cigarette league.

-------#-------

ARE WE TAKING FIRE PREVENTION SERIOUSLY?

By Jno. D. Guthrie, D-6

How much time and effort, how much real cash are we putting into fire prevention? On the other hand, has anybody in the Service the courage to put down in black and white what during the past 10 years we've put into fire tools, equipment and fire fighting, into what Headley calls pre-suppression and suppression?

Haven't we always put most of our time, effort, and money into protective improvements, into discovering, reporting, fighting, and again reporting fires after someone has gone out into the woods and started the fires?

Haven't we been primarily concerned with the mechanics of fire control, with new fire tools (take-down, collapsible and whatnot), with new pumps, and how far and with what force they will throw a stream of water; with new telephone lines and lookout towers, and more patrolmen and more tails. All for what purpose? So we can make a nice-looking paper report on the elapsed time in getting to a fire and putting it out! All these medhanical and physical things are of tremendous value in the fire game. We need them; we should have them. These things all help and help tremendously in discovering a fire, in getting to it, in controlling it, in putting it out, BUT they don't prevent forest fires from starting!

Forest fires are not started by inanimate objects; they don't start spontaneously, nor by acts of God, unless you include lightning fires under this heading. Forest fires, at least from 70 to 90 per cent of them, are started by human beings like you and me. We don't do it, we know better; so it must be the other fellow who doesn't know any better.

The real problem in this forest fire game is not one of mechanics, nor one of physical factors - it's the human factor, and we will never get on top of it until we realize the human side of it. It's men, human beings, not tools, telephones, and towers, that start forest fires, and we've got to make it so unpopular a summer pastime that the careless man, the thoughtless man, the vicious man, when he goes into the woods will almost automatically become fire-conscious; so he will not dare to be careless or thoughtless, for fear of an outraged public sentiment. And public sentiment will never become outraged until it is educated and aroused - and public education costs money, real money; fire tools, more lookouts, fire finders, and pumps won't do it.

The men of the British Columbia Forest Service are looking the problem of fire prevention squarely in the face. They aren't kidding themselves. They are spending 5 per cent of their entire protection budget in fire prevention publicity! Have we the vision and the courage to do that?

-------#-------

SNAGS AND FIRES

In order to determine to what extent snags increase the fire hazard, particularly on cut-over areas, a questionnaire was sent to the western Districts asking for their comments on several different items.

The first of these was: Do standing snags increase the area burned over in the fire? Replies from five Districts indicate that there are innumerable instances where the area burned has been increased by the presence of snags. It is interesting to note that the western yellow pine region was more affected than any other. Similar information was obtained for the yellow pine type in the East, although chestnut snags are considered as great a menace as are pine.

The second question was: Does the presence or absence of snags affect the cost and difficulty of fire control? The answers indicate that there were numerous cases where snags materially increased the cost of fire fighting both in virgin areas and on cut-over lands. Again, as in the first instance, the western yellow pine data were much stronger than those for all the other forest types.

The increase of cost apparently is in inverse ratio to the size of the fire, that is, the cost of a small fire is increased by a greater percentage than the cost of a larger one. The increased cost results from the necessity of assigning men to cut snags and of detailing patrols to watch dangerous portions of the line. Several Districts pointed out the fact that the ordinary fire fighter does not realize the importance of watching and dealing with snags.

Answers to the third question, asking for instances in which fires have not increased in area though many snags were present, indicate relatively few such fires. In the instances that were cited only sound snags were present.

Few Forests or Districts have been able to segregate the proportion of cost chargeable to felling snags and extending the line because of the presence of these hazards. The general belief is rather that the cost is increased about 10 per cent; some Forests report fires on which the estimated increase in cost is placed as high as 75 per cent. One Forest stated that the increase on small fires is 300 per cent. The highest acreage increase is reported from the western yellow pine type, where it is placed at about 35 per cent, although hardwood snags in the East apparently are as serious a menace as the snags in western yellow pine. Nearly every Forest having experience in this line says that the cost of patrolling the line is materially increased where snags are present.

Numerous instances are reported from all the Districts in which snag felling on cut-over areas apparently resulted in keeping fires to smaller areas than otherwise would have been the case. Many of the Forests, however, report that they have had relatively few fires on their cut-over lands.

The percentage of cases where lightning has struck snags and caused fires runs from zero to as high as 90 per cent. Information is greatly at variance and the average is around 40 per cent. While one Ranger would report that snags were rarely struck, on an adjoining ranger district over 60 per cent of the lightning fires were reported as due to snags being struck. Apparently most of the men believe that struck snags cause fires more often than struck live trees. As in the other instances, the western yellow pine type has more fires than any other forest type.

This survey indicates that snags are a distinct menace particularly in the forest types in which the yellow pines predominate. Where the snags are sound, there is not as much difficulty in handling fires as where the sapwood or interior of the tree is decayed, indicating that the snag of only a few years' standing is not as much of a menace as an older one.

The answer seems to be the felling of all snags at every opportunity.

-------#-------

WASHINGTON NOTES

Gleanings from the Librarian's Annual Report: During the past year 758 books and pamphlets were added to the Washington library, and 97 were discarded, making a net increase of 661. The library on July 1 contained 24,628 volumes. The librarian now files 86 current periodicals and indexes the principal articles in them on forestry, lumbering, etc., for the card catalogue. Besides these, the main library of the Department of

Agriculture continues to lend us temporarily from 80 to 100 periodicals regularly, for indexing and for circulating to members of the Service who are interested in them. The total number of books and articles indexed last year was 3,189.

Last year there were 11,164 books and periodicals drawn from the library, an increase of 1,132 over the number for the previous year. The largest number loaned in any one month was 1,113, in April, 1925. Personel visits to the library during the year totaled 1,382. There were 132 registered borrowers of books on the charge records last year, and 70 names to which current periodicals were circulated regularly.

- - - - - - -

Rachford's Range Report to be Reviewed: The Secretary has been anxious to get someone to review Mr. Rachford's range appraisal report and advise him as an independent person entirely dissociated with the Service as to its merits - whether the methods on which the range appraisal was based are proper, whether the comparison between the values of the Forest ranges and the private lands which were used is right, and whether the fees which the Forester has recommended to the Secretary are fair as compared with the price stockmen are paying for grazing lands of comparable value. The Secretary has requested Mr. Dan D. Casement of Manhattan, Kansas, to make this investigation, which he has accepted. Mr. Casement is an Ohio farmer who has a large farm at Manhattan, Kansas, and a range stock ranch in western Colorado with a grazing permit on our Uncompahgre National Forest. He understands the values of grazing ranges and it is believed will undertake the investigation of the Rachford report with an open mind and advise the Secretary accordingly.--W.C.B.

- - - - - - -

Herbert N. Wheeler left July 6 for Asheville, North Carolina. He will lecture in Asheville and other points in western North Carolina. After his North Carolina trip Mr. Wheeler is scheduled for a six weeks' lecture trip in New York, Pennsylvania, Vermont, New Hampshire, and Massachusetts.

- - - - - - -

Will Barnes recently rung the bell with an article in the SATURDAY EVENING POST. This time Mr. Barnes wrote about "The Cowboy and his Songs."

- - - - - - -

Embarrassing Questions:

Boy Scout (taking examination for Forestry Merit Badge): "Do you go into the woods very often?"

Washington Forest Officer (looking pensively out of the window at brick walls and paved streets): "Um,- Ah,- Oh, occasionally into Rock Creek Park."

-------#-------

FOREST EXPERIMENT STATIONS

It is not often that a relatively small unit of the Department is given a place in the sun, yet page 571 of the Administrative Regulations uses the Northeastern Forest Experiment Station as an example of how a sign should be made up. The only unfortunate thing about it is the omission of the word "Forest" which would distinguish our own experiment stations from others in the agricultural field.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Pumps Give Satisfactory Tests: A test of two Pacific fire pumps was recently made at Missoula. The pumps were set up at a creek and 1150 feet of $1\frac{1}{2}$-inch rubber-lined cotton hose was strung out across a flat and up a steep clope.

The smaller pump, weighing about 40 pounds, delivered water through 700 feet of hose to a height of 127 feet vertically above the pump. With that head and friction, it delivered water but had practically no nozzle pressure.

The larger pump was run for a considerable length of time and was stopped and started several times without trouble. It delivered water through the entire 1150 feet of hose to an elevation of 318 feet above the pump. At this height, with a $\frac{1}{4}$-inch nozzle on the hose, a stream was thrown 25 feet above the nozzle up along the trunk of the tree. These were actual measurements of elevations. The water pressure gauge on this pump registered 150 pounds to 160 pounds per square inch when water was being delivered at the greatest height. The weight of this pump is a trifle under 70 pounds. Under this heavy duty, there was so little vibration that it was not necessary to anchor the machine in any way or to weight it down. Every Forest officer who witnessed the test of these pumps considered the performance of both very satisfactory.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Successful Planting Season on Nebraska: Planting was completed on the Nebraska on April 25. About 1,600,000 trees were first cut. The season was early and the work was rushed in order to take advantage of favorable soil conditions. The rainfall was below normal this spring, but there was considerable snow during the winter that put the ground in good condition. No difficulty was encountered in securing all of the men needed.

Transplanting has also been completed at the Bessey Nursery. With the early start the trees will have this year, good survivals should result in both field and nursery with average rainfall during the season.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Part of the Teton Takes a Trip: Doubtless most Forest Service people have read of the landslide on the Teton Forest by this time. Supervisor McCain cuts down the dimensions of the slide somewhat from those reported in the newspapers. Nevertheless, it is very extensive, being a mile long, and about 200 feet deep in the center of the valley. The Forest Service road up the Gros Ventre River cannot be reconstructed in this stretch and the water may rise high enough to cover the Horsetail Ranger Station. This is the chief loss to Forest Service permanent improvements. Ranchers in the valley lost much more than we in the landslide, and there were several narrow escapes from death. The lake behind the dam will apparently be some seven miles long when filled. Supervisor McCain is building a horse trail into the country above the slide to provide means of communication. It is reported that several automobile parties were marooned in the upper Gros Ventre.

- - - - - - -

Forage and Violins: Here comes something else to complicate the grazing reconnaissance. It really seems as though they ought to study the forage on the sheep ranges in connection with its value for violins and other stringed instruments. You see, it's like this. According to an article which recently appeared, catgut which is used for violin strings and strings on tennis rackets is not prepared from the insides of an old tom cat at all, but from sheep intestines. The eastern feeder sheep spend most of their lives on farms and in a humid climate which produces a more tender and succulent vegetation. They have insides of a softer and more uniform quality than these western range sheep. Accordingly, our local sheep can be turned into catgut only satisfactory for tennis rackets, whereas the eastern animals will make violin strings. We wonder if sheep could not be put on nice tender weed range and kept there, eating flowers, sweet cicely, and other delicate plants, and ultimately produce tones that would absolutely charm the heart of an ax.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Jove Runs Henry to Cover: During an electrical storm in the Yola Bela District of the Trinity, a Ford was parked in front of the house at Saddle Cam about thirty feet from the flagpole. Lightning struck the flagpole, tearing it into splinters to a distance of about eight feet from the ground. It then left the flagpole and took after the Ford, catching up with it in time to give it a boost through a wire fence and down the hill where it landed against a large log. A close examination of the car showed no damage except a bent front axle.--A.T.

- - - - - - -

Pasturage Conditions near Normal: The June 1 condition of pasture in California was 99 per cent of normal as compared with 97 one month ago; 55 on June 1 last year, and a 10-year average of 82.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Ten Million Per Year! The following came in answer to D-6's request to the Clason Map Company of Denver to include the shield and fire slogan on their maps:

"Your suggestion regarding the use of your slogan on our maps has been accepted, and in the future the 'Prevent Forest Fire - It Pays' shield will appear on all our State maps. We are also giving prominence to this slogan on the inside front page of our new touring atlas with illustrations of many of the National Forests. In all probability your slogan will appear on over ten million of our maps this year, which we hope will assist in some degree in your fire prevention campaign."

-------#-------

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 29. Washington, D. C. July 20, 1925.

HAS THE STORY ENDED?

By Theo. Shoemaker, D-1.

In the Service Bulletin of June 1, under title of "The Unpleasant Ending of the Story of Progress in Fire Control," Mr. Headley discounts the results in fire prevention. For years practically every man in the Service has been devoting a part of his time and effort to the fire prevention problem. Yet Mr. Headley would have us believe that the results have been approximately nil. He even proves his case by the use of statistics, and the worst of it is he seems discouraged.

I do not want to quarrel with the idea that it is the actual number of man-caused fires which finally we want to reduce. Neither do I want to belittle the magnificent accomplishment of having held the number of fires about stationary during these past few years while the stimulus of the automobile, the good roads, and the tremendous growth of the outdoor urge has been leading the inexperienced and careless into our midst.

I also want it understood that I am undertaking no defense of our methods of education. They can and must be improved, intensified, and made more practical, just as our methods of suppression and pre-suppression must be improved. As to where lies the greatest possibility for the reduction of actual losses, honest difference of opinion is sure to exist. But I believe that the chance for the greatest immediate advance lies in the fields of pre-suppression and suppression. Literally hundreds of chances to prevent fires from starting (and to "get" such fires as do start before damage is done), through the organization, instruction, etc., of guards, cooperators and other agencies, are not being realized on. All too large a percentage of the destructive fires which figure heavily in the acreage burned are still due to someone's failure in the early stages of suppression.

Let us analyze the figures quoted. In the first place I do not believe the 1924 figures are a proper criterion, but granting that they are, they are not materially greater than 1919. The figures used do not go back far enough, and can not, because the older figures are not complete. In fact, the apparent increase through the years may to a large extent be accounted for by the greater throughness with which we have come to investigate and report fires. Again, in 1924 there were in District 1 alone 165 man-caused fires before the normal opening of the fire season. It was somewhat similar in D-6, not to mention California, where the season began early and held on late. Such is the falacy of figures, which, someone has said, can be made to prove anything.

What sort of figures do you suppose would be filling the columns of Mr. Headley's table in the May 25 Bulletin if fires had increased in ratio with Forest visitors? In this earlier article he rightly stresses the fact that it is the occasional bad seasons that have ruined the record. What would those years have done to it on Forests where the number of visitors has doubled or quadrupled if the number of fires had also doubled or quadrupled? Safe to say, it would really have made of it an "unpleasant story." Those additional fires would have proved the proverbial "straw that broke the camel's back."

Again, with a past record of fires growing in number right along with the increase of Forest visitors, how could we face the future? Then indeed would there be cause for discouragement, for on many of the Forests the tide of sojourners has only just set in. Yet it is of the future we have to think, and he who is discouraged is already beaten.

Most of us in the Service will not, I feel sure, share Mr. Headley's pessimism. We shall regard a reduction in the ratio of man-caused fires to Forest visitors as both praiseworthy and of basic importance in fire control. We shall look to the future hopefully, feeling that if we can hold the number of man-caused fires down during this period of unprecedented growth in outdoor recreation, we can when such use becomes settled and stabilized gradually reduce the actual number of such fires to a point where they will nov jeopardize forest management. There is neither room for complacency in regard to the accomplishments in suppression, nor for discouragement concerning the results in ~~suppression~~ prevention. The real need is for advancement all along the line.

-------#-------

WHITEWATER WASTES

By Aldo Leopold, Forest Products Laboratory

Editor Abbott's campaign for divorcing recreation from National Forests will probably not succeed, but the discussion it has evoked may nevertheless serve a useful purpose in emphasizing the fact that natural resources which exist jointly on the same ground must be administered jointly if they are to be administered well.

This interlocking of National Forests and public recreation is a fact presumably well known to all who have seen either, but that research in Forest Products is interlocked with recreational interests is a fact that may merit explanation.

The pulp and paper industry is a case in point. Pollution from pulp and paper mills is a major obstacle to fish culture in many waters of the Lake States and the East. Forest Products research has shown that in general the proportion of the tree that goes down the river in the form of chemical or mechanical wastes is not only a direct measure of the efficiency of utilization from a strictly pulp and paper standpoint, but also a direct measure of the damage to wild life and recreation. Good utilization means more and better pulp, less drain on the forest, and less pollution.

A good example is the suspended fibre in what is known as "whitewater." Forest Products research has shown that an average of about 7 per cent of all the paper made is wasted by running the whitewater into the river. By re-using the whitewater, or reclaiming its contents by settling basins or screens, the loss of fibre can be feasibly reduced to 1 to 2 per cent. The savings in pulp for the country at large would be 350,000 tons per year, worth ten million dollars. The savings to fish life and public recreation would of course be very great.

Anti-pollution agitation is necessary to arouse public interest in pollution problems, but only technical research will solve them. The Laboratory is pushing its research in pulp and paper wastes in the belief that it will not only save wood but will enable commercial and recreational interests to work out a practicable program for cleaning up pulp-mill pollution.

--------#--------

THE OPEN MIND

By F. S. Baker, D-4

Right good sermon by Show in the Service Bulletin for June 22, wasn't it? I thought so. But I somehow thought that he stopped a little short of the end. He lambasted "Hill-billy Science" as it should be, intimated good and strong that it played a big part in fire prevention and timber growing, and there he left it. Of course he was objecting to the rawest kind of Hill-billy science, and I sincerely hope we have none of the type he is hitting at in our ranks. But at the same time I am very much afraid that nearly everyone has a touch of it in his make-up - that tendency to think that things we want to be true are true.

Even diluted it is a poor sort of a characteristic to have. It makes people conceited, holier-than-thou in their manner, and undependable in their judgment, for their personal opinion is their final authority. But as I remarked above, who is there without a little prejudice? It's simply human nature. Even the elite of the world of science are not free from it.

I listened to an argument on wartime prohibition once - just a street corner argument, not a formal affair. The two men were agreed that distilled liquors were absolutely out of place in the life of a nation out to win a war. But one felt that wine should also be tabooed as being a luxury pure and simple. The other disagreed, claiming that there was no other use for the grapes.

but that beer which used up good grain ought to be abolished. The first man felt, however, that beer had real food value and was a drink of merit for the working man. And so it went. Presently it developed that one of them detested the bitter taste of beer and the other could see absolutely nothing in wine. And so I laughed - and neither could see any joke. One now bosses a Service Experiment Station; the other works at another. So, as I say, the elite of the world are not free from prejudice.

We work in an organization with a mission. We are boosters, propagandists (if you know the pure meaning of the word). Never in the history of the world have such people been noted for open-mindedness and freedom from prejudice. I often wonder if we are as an organization. Sometimes it looks as if we were not. We seem a little bit touchy when criticised, which is always a sign of superabundant sureness. Otherwise we seem pretty levelheaded to me. But when I think of all the things we want to be true - want with all our hearts and souls, in timber and grazing work, fire protection and watershed protection - I begin to think we must be a race of supermen if we consistently yield not to temptation.

Well, anyway lets be as open-minded as we can, and while we flay the hill-billy who wants to light-burn let us hope to heaven that we are not making similar asses of ourselves and cultivate straight thinking with all our power in view of our multitudinous temptations.

-------#-------

WASHINGTON NOTES

The Forester has returned from an extensive trip through the western Districts. Most of his trip was in connection with the hearings of the Special Senate Committee investigating public lands and the grazing of livestock on the National Forests. The Forester will soon leave on another western trip.

Associate Forester Sherman has left for a two months' western trip.

District 7 has crashed through with the "District Seven Digest," to be issued daily.. Considering the far-flung boundaries of this District, the beneficial effects of the new daily bulletin can easily be surmised.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Montana and Idaho Under Clarke-McNary Act: Montana and Idaho have recently signed agreements for cooperating with the Federal Government under the terms of the Clarke-McNary law. The Federal Government recognizes the fire protective systems of these States as substantially promoting the objects of the law. Monatna receives $14,470 for the year and Idaho $24,780, of which $2580 is a separate allotment to South Idaho.

The Montana State program of protection this year contemplates, in addition to complete protection of the State Forests, material financial aid to the two organized fire associations and a State-managed patrol organization for five smaller units. The budget for the year calls for the expenditure of $29,540 by the State, about one-half of which will be reimbursed by the Federal Government.

The North Idaho plan contemplates the expenditure of $43,800 State funds and $99,280 private funds in addition to the federal money allotted to the State. About 83 per cent of available funds is being invested in fire protection work, and in this way it is hoped that fire suppression and the ultimate total cost can be materially reduced.

Seventeen fire districts have been declared in North Idaho by State Forester Ben E. Bush and protection plans have been prepared for each. These cover practically all of the forest land in the northern part of the State.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Rangers' Training Camp for 1925: District Two recently finished its fourth training camp for beginning Rangers. The distinctive thing about this camp was the number of school men involved. Of the 14 men, 6 had passed the Junior Forester examination, 2 the Junior Range Examiner examination (this involves one duplication), and 4 others had taken Ranger courses. Thirteen had had at least some college work. Whether or not this represents a permanent change in Ranger material or whether it just happened no one can say. Although general opinion is that the quality of the work done at camp was high, it is the field test that counts. Will these school men make a satisfactory showing on the districts? Time will tell. Some of us believe they will.

Another innovation this year was that the work plan for the camp was in standard form for a ranger work plan, and each man was furnished a copy. This was a big improvement, but was impossible until we had a real standard. In the annual ball game with Woodland Park, the Rangers lost 10 to 2. In some other ways the camp seems to have been more successful, but the real game has just started and our success will be known when the Supervisors turn in the scores next fall.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Using the Personal Contact Method: On Sunday, May 24, fourteen auto loads of tourists visited the summer colonies and campgrounds at Mt. Lemmon on the Coronado Forest. One fire occurred. The Saturday following was Decoration

Day and a Sunday holiday. Eighty-four cars came up, loaded with people, tailer-made cigarettes, and other potentialities, but there were no fires. The reason for this was that each prospective firebug was warned, rewarned, and demonstrated to until he develcped a "pinch 'em out and break 'em" complex. Also, the fireplaces at the Soldier Camp campground, now ten in numbe were used and no camp fires were built outside. If the average of the previ Sunday had been maintained there would have been five or six fires, with a fifty-mile breeze blowing. The Fire Guard, camped at the upper control poi on the road, halted each car, took the names of the occupants and car licens number, while he demonstarted the proper method of not setting a fire.

Local Oil Company Puts Out Fire Warnings: The Rio Grande Oil Company, with refineries at El Paso, Phoenix, and Los Angeles has included two fire slogans "Protect the Forests From Fire," and "Watch Your Campfire," in their recent four-page circular advertising their gasoline and lubricating oils. This cooperation was secured by Ranger Taylor of the Crook through the company's agent Fauber at Globe.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Santa Barbara Office Not Destroyed by Earthquake: The first reports emanatin from Santa Barbara were exaggerated to a considerable degree. It was ascertained after communication had been established that the Federal Building is still standing and practically safe in the opinion of Supervisor Jordan. A second shake that followed a day or so after the first one caused further damage to the building and resulted in the Forest force transacting official business at the residence of the Supervisor. It is understood that official records, while badly mixed up, are not damaged to any appreciable extent. Supervisor Cecil of the Angeles Forest has extended Mr. Jordan clerical assistance to help in getting the files in working order once more. No Forest Service employees, I am glad to say, were injured in any way. It is understood that considerable damage has been done to some of our roads and trails. The extent of such damage has not been learned. The lookout building, which is directly back of Santa Barbara on La Cumbre Peak, was squarely in the path of the earthquake. The structure is built upon a huge rock and it can easily be imagined how severe the shock would appear to the lookout man. The lookout man, Benny Moore, stated that the jar was so severe that the coal oil in the tank over his stove was all spilled out. This also happened to the water in the twenty-five gallon tank. The lookout building itself, however, has withstood the shakes in an exceedingly fine manner. Moore was certainly entitled to a great deal of credit as he remained on duty throughout the day and within a few minutes after the heavy shake reported a fire which was caused by the friction resulting from the rolling rock.

There was another very interesting incident that occurred. During the fire in Oso Canyon in 1923 oil shale on a mountain just north of the Santa Ynez River caught on fire and has been slowly smoldering ever since. At the time of the shake the Forest Service packer at the Mono Station happened to look toward this mountain approximately a quarter of a mile away and was startled at the sight of flames and ashes which he later determined to be from the point where the oil shale had been burning.

Many minor shakes have occurred within the last few days, but none of sufficient strength to cause any additional damage.- L. A. B.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Two Hundred and Fifty Thousand feet of Douglas fir timber in the Klamath district on the Crater Forest was advertised during May at the minimum price of $2.00. Two bids were received, one for $2.76 and the other for $3.30. This is a record price for the so-called inferior species. The timber will be logged to Crystal Creek and rafted to the mills on Klamath Lake.

George in S. E. P.: Our old friend Geo. H. Cecil is quoted quite fully in an editorial of a column and a quarter in the Saturday Evening Post of May 16, 1925. It's too bad tho' that while the editorial writer mentioned the Angeles National Forest, he locates it merely "in one of the Western States"!

-------#-------

DISTRICT 7 - EASTERN DISTRICT

North Carolina In Market For Forester: State Forester J S. Holmes of North Carolina is in the market for a technically trained forester to take charge of the forest fire control work in one of the State districts. In addition to the general management of this activity within the district, the new man will be expected to develop additional cooperation with the counties and also to build up private cooperation along the lines of forest protective associations. The position will carry an initial salary of $ 2,000 per annum. The district embraces the counties surrounding New Bern. Anyone interested in this offering should correspond directly with State Forester Holmes at Raleigh.

-------#-------

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

Vol IX. No. 30. Washington, D. C. July 27, 1925.

THREE PICTURES

By A. L. Richey, Superior.

In my office hangs a 22" x 28" picture of a Colorado Forest Ranger with all his war paint on - chaps, spurs, high-heeled boots, quirt, sombrero, and everything. He rides a fat saddle horse, and leads a faithful old pack horse laden with all the good things of a field trip - panniers bulging with grub, bed, tent, tools, etc, and probably oats for the fat horse. In the background the mountains loom, peak on peak, with banks of perpetual snow in the gulches, and a lake almost hidden in the virgin timber. It's a beautiful picture. Ranger Bill, as he sits easily in the big saddle, with reins held correctly in his raised, gauntleted hand, scans the far horizon with an eagle eye for signs of fire. Looking at the picture one can almost envision a Robin Hood on horseback, or Sir Galahad of the twentieth century looking for the Holy Grail. In fact, Ranger Bill looks like a million dollars worth of the popular conception of what Uncle Sam's Forest Rangers ought to be.

Underneath this picture hangs one of a Superior Ranger going about his business, taking a load of supplies out on his District. The vehicle is a seventeen-foot canoe. Ranger Tom wields a paddle in the stern (this is the south end of a canoe going north) with his Finn henchman and guard keeping time in the bow. The scene is in the middle of a sizable lake, with low, dim-wooded shores for a background. The whole picture is primitive, backwoodsy, behind the times. One thinks of the birch bark canoe of the Indian, and of the voyageurs, traders, and trappers of the early days who paddled their way slowly through the thousand lakes and streams, and portaged canoes and loads from lake to lake. There is no action in the picture. It almost seems like a "painted canoe on a painted lake," if I may misquote slightly. Or if the modern idea of the canoe as a pleasure craft comes to mind, we can imagine some son of the idle rich dallying through the summer days, fishing and camping; or some canoe sheik taking his ladylove for a spin. We can imagine almost anything, except a real Ranger doing real work. There is nothing romantic to the Ranger in paddling from seven to seven with a hot sun, mosquitoes, and black flies to keep him company, packing a ninety-pound canoe and three or four hundred pounds of chuck over half-mile portages.

I have another picture of a Ranger. We won't call him Bill, because Ranger Bill is a horseback Ranger, and our nautical Ranger has been dubbed Tom. So we will call this one Ranger Percy. Now don't jump at conclusions. Ranger Percy has a nice shiny automobile parked alongside a tourist camp, and he appears to be conversing very earnestly with a couple of flappers in breeches and bobs. Ranger Percy wears a spick-and-span uniform made by Kahn, with shiny putts, a beautifully startched Stetson, and a smile that won't come off. He looks like an advertisement for smart outing togs. But, as I said, don't jump at conclusions. Percy looks exactly like what he ain't. In reality he is a serious-minded youth who has no longings to be a sheik, but a decided preference for the tall and uncut. He would much prefer building a trail or cruising to gabbing with tourists. I happen to know that he is the original fire-fighting fool, with a prevention and suppression record that any Ranger might emulate. His job calls for a certain amount of patrol and publicity work with tourists, and he is doing it just as efficiently as his fire fighting.

So I find, in looking at my three pictures, that it doesn't pay to jump at conclusions. One Ranger looks like a movie cowpuncher, one like a Chippewa Indian, and the other like a flivver tourist. But they are just as much alike as three peas in the efficiency of the work they are called on to do. There is no standard pattern by which you can mould Rangers - they are moulded by the job, and the conditions under which they must work to get the best results.

A NEW ANGLE OF APPROACH

By Jacob Roeser, Jr., Rocky Mt. Exp. Sta.

The Pikes Peak region is visited by a good many tourists from all parts of the country each season, and many of these find their way, consciously or otherwise, to the Fremont Experiment Station on Mt. Manitou. The Forest officers at the station are the recipients of questions of all kinds relating to forestry matters, and while many of these queries seem foolish to us, they are usually asked in all seriousness by the visitor who wishes to have some moot problem cleared up. No secret is divulged when it is said that the general public's idea of what constitutes forestry is primitive.

One of the stock questions shot at us deals, of course, with fire protection. What is its nature? How do you fight fires? Do you ever have any here? Will these trees on that slope burn? How do you tell when the situation is bad? And many others. Very evidently our fire protection propaganda has gone across in great measure, but most of the questions leave a doubt in my mind as to whether the visitor is really impressed by the serousness of it all. He has been told that forests burn; that much valuable timber is destroyed; that our water supply is diminished by injury of watersheds, etc. He has seen pictures of forest fires. He has been told, in other words, what fires do to our forests, but being largely ignorant of the nature of the thing destroyed, it seems to me that our work of educating him has not been completed.

At the experiment station, we are in a position to add a few lessons to our general educational plan. Practically all of our visitors are most deeply impressed by their first sight of a seedling tree. A good majority, at least 90%, have never seen a coniferous tree in its first year, and their astonishment is amusing. They begin to realize that a pine tree gets a slower start in life than any plant with which they are familiar. At nearby plantations, they are then shown some 15-20 year old saplings, varying in size from 2 to 10 feet. By this time they are so impressed by the slow growth of the trees that they want to know the age of large trees on the adjacent slopes. Within sight of the Station are Douglas firs running the gamut from saplings to veterans 250 years old. These are pointed out, and the lesson of the growth of trees is finished. To say the visitor is impressed is putting it mildly. I have seen enough instances within the past few years to know. A little talk on the subject of fire protection as a follow-up is pretty much like a knock-out blow. It gets across. The inquisitor has had a real object lesson, and he knows now what it's all about. And the chances are very good that the lesson will be remembered for a long time; at least as long and as often as he has occasion to get out into the forest and enjoy its benefits.

-------#-------

FIRST DEMANDS FOR RANGE CONTROL

By Will C. Barnes, Washington

It is interesting to learn that the idea of range control is not altogether a modern innovation, as most students of this subject undoubtedly believe. In March, 1775, Daniel Boone, the mighty hunter and pioneer who had been employed by Governor Dunmore of Virginia to conduct a crew of surveyors to the falls of the Ohio River, began the erection of a fort in what is now Madison County, Kentucky, in the central portion of that State. (Collins' History of Kentucky.) To this fort Boone brought his wife and daughters and his brother, Squire Boone. Colonel Henderson, a Virginian, had purchased from the Cherokee Indians some 90,000,000 acres of wild or public land upon which he intended to organize what he called the "Colony of Transylvania." Henderson, who was the first and only president of this long since forgotten republic, established his capital at Boone's fort, or Boonesboro as it was later called. Naturally the new colony required laws for its government.

Henderson called a convention at Boonesboro, and on May 23, 1775, six men met and drew up and passed nine separate laws as a basis for a code of laws for the new colony. Of these nine three are of particular interest to the livestock industry. They are entitled:

> "An act to preserve the range - that is the right of public pasture."
>
> "An act for preserving the breed of horses."
>
> "An act for preserving game."

A close search through every available source of information fails to discover more than the ttiles to these nine laws. Their wording has been lost to posterity. Shaler's History of Kentucky, page 69, says:

> "The foregoing laws have not come down to us in detail. We have only their titles."

It certainly would be interesting to know the exact phraseology of the law for preserving the range. Considering, however, the various statements made by early writers as to the damage done to the forests and ranges by the livestock of the Virginia settlers as well as their almost uniform comments on the wretched physical condition of the animals themselves, it is but reasonable to assume that this law was intended to restrict in some degree the wasteful use of the range by livestock. If this assumption be true, then this is the first known attempt to regulate by law the use of the public domain for grazing livestock.

Boone was a member of this convention and as he had been a cattle owner in the Virginia colony it is not unlikely that he was responsible for the measure. After the passage of these nine measures the convention adjourned to meet again in September, 1775, but never reassembled, the Colony of Virginia having stepped in and protested Henderson's action in acquiring the land. Thus ended the "Colony of Transylvania" and early attempts at some form of legal supervision of the public domain.

-------#-------

WASHINGTON NOTES

Widespread Demand for New Forestry Map: The rapidly increasing interest in timber growing and in the nation's available timber supply is reflected in the demand for a map showing the six principal forest regions of the United States, which has been published recently by the Forest Service. In addition, the map has a list of the principal trees found in each region, and a brief comprehensive statement of the areas and amounts of timber in each region.

A surprising feature of the large demand for this map is the increasing call for it by commercial organizations and by schools. In this latter respect Pennsylvania leads the list with about 350 separate requests from teachers and County Supervisors for a total of 7,013 copies.

Recently, copies were sent by the Lumber Division, Department of Commerce, to their foreign offices located in the principal lumber markets abroad. The result has been requests from a good many of the larger lumber exporters for additional copies. Answering a request of Mr. Axel H. Oxholm, Chief of the Lumber Division, 1,400 copies of the map have recently been furnished for transmitting to various foreign offices as well as domestic export merchants and brokers.

The Washington office of the Forest Service still has about 3,000 copies of this forestry map for free distribution.-W. R. M.

What Is An Epigram? A new definition for an epigram came into the office the other day. Here it is: "An epigram is like a bee; a busy little thing, its body bright, its honey sweet, but in its tail a sting."

An Old Guess: In the AMERICAN LUMBERMAN for July, 1875 (50 years ago), is the following from a Troy, New York, paper:

"At the present rate of consumption, the timber men of Canada and Michigan look for the exhaustion of the present available white pine forests in fifteen years. When it is considered that the total production of timber and lumber in the United States at the present time is not less than 6 billion (It is now 40) feet per annum, and that for some years past as many as 300 or 400 square miles of timber have been cut annually to meet the demands of the Chicago market alone, it is not difficult to understand the vital importance of this branch of industry."

FOREST PRODUCTS LABORATORY

Cooperative Study With Lake States Station: Upon request of Mr. Zon further preliminary negotiations were carried on during the month with the Lake States Experiment Station and the Northern Hemlock and Hardwood Manufacturers' Association for the purpose of formulating plans, selecting operations, etc., for a cooperative study having the following major objects:

1. The working out of guiding silvicultural principles and establishment of practical cutting practices which will aid in the development of sound forest management plans for Lake States conditions.

2. Determination of the relative cost of logging and milling logs of different diameters; the yield by grades of lumber of logs of different diameters and the relative costs of manufacture.

3. Determination of the cost and practicability of producing dimension stock from mill waste, small logs, crooked logs, partially decayed logs, or in other words from material which does not yield profitable and satisfactory grades of lumber.

4. Investigation of kind, class, and amount of material left in the woods after logging operations of varying degrees of efficiency and the development of outlets for this material so far as practicable.

This project is considered very important since it has to do with the fundamentals of forestry in general and with the small dimension stock study in particular.

-------#-------

FOREST EXPERIMENT STATIONS

Experiments in Thinning: Remeasurement has shown very little increment as a result of thinning from below in four plots established ten years ago and four plots established five years ago in 60-year old white pine stands at the Northern Rocky Mountain Experiment Station. Either the thinnings were too light or the stand was too old. This spring two additional plots were established to try the effect of heavier thinning. One of these plots was marked heavily from below, leaving only widely spaced dominants; the other was marked by a modified Barggreve method, taking out the largest dominants and such of the suppressed trees as had no chance of living until the next felling operation. Before it was undertaken, the Barggreve method was considered with some hesitation because of its radical feature of thinning from above. It was found, however, that the typical young western white pine stands, when looked at from the standpoint of thinning, seemed to lend themselves better to this method than to any other. The usual condition on good sites is to have a dense stand of several species in which the bulk of the trees is in a general co-dominant crown level, with a number of very large dominants standing 25 to 30 feet above the general level. It is really believed to be good silviculture to take these out and allow the remaining stand to develop as a more uniform and profitable crop of timber. In the plot marked by this method there were 38 trees per acre of this class which would make railroad ties and sawlogs.

Vacancies Filled at Experiment Station: Junior Forester Robert Marshall was assigned to the Northern Rocky Mountain Experiment Station June 19. He was a field assistant at the Pacific Northwest Station last summer, and finished his school work this year under Professor Fisher at Harvard Forest.

Another newcomer at this experiment station is Field Assistant Fred Dickmann, a graduate of the Forest Academy at Halle in Saxony, Germany. Dickmann has had several years experience as a practicing forester in Germany. As a part of his war experience he spent three years in a British prison camp. He has taken out first citizenship papers and is seeking temporary employment in the Forest Service until he becomes eligible to take the Junior Forester examination. He worked as a fire lookout on the Flathead Forest last summer.

DISTRICT 3 - -SOUTHWESTERN DISTRICT

Giving The Public Notice: Supervisor Fred Winn of the Gila Forest is a strong believer in publicity, and in order to give the users of the Forest fair warning has published the following notice in the Silver City Independent and Enterprise:

> ### Forest Fire Warning
>
> The Forest Service desires to warn all people entering the Gila National Forest to use extreme care with fire. It is within the authority of the District Forester in Albuquerque to close all or some portions of the National Forest to camping of all sorts; also to require campfire permits and to forbid smoking while on the Forest. It is not felt that the local situation warrants such drastic action at the present time. However, any carelessness with fire on the Gila National Forest may cause such action to be taken in the near future. Parties intending to enter the Forest are accordingly warned to be doubly careful.

Breaking Wildcats to Lead: If anyone wants advice on the proper method of halter-breaking a wildcat, states the Coronado Bulletin, they should apply to the trail maintenance crew on Mt. Lemmon, who can tell them several things that should not be done. About nine o'clock one evening the patrolman at that place caught a large bobcat in a trap, and the two trail men conceived the idea of taking him out of the trap and making a pet of him. They finally got the patrolman's reata tied around the cub's neck and got him out of the trap and started to lead him to the cabin. For a short distance, he seemed very reluctant, in fact, led about like a sled, then he seemed to get the idea, in fact, elaborated on it and led himself all over Frank G. Miller. Then discovering that O. E. Hamilton also had a hold on the rope, he proceeded to make nice, long red tracks all over him, and then taking the initiative he added insult to injury by leading the patrolman's new reata (cost $8) to parts unknown.

The Ice Is Broken: Impounding Regulation T-11 was officially tested out on the Santa Fe Forest recently. It worked to perfection. Six head of horses were found in trespass on Forest land in Santa Fe Canyon, which is closed to grazing for watershed protection. The stock was rounded up on June 17 and corralled on the same day. Before due written notice could be given the owners appeared to redeem them and were told to come to Santa Fe to secure money orders, which they did on June 18 to the tune of $4.35.

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Power Grading on Kaibab: Last fall the District Office purchased for the Kaibab Forest a tractor grader (Hadfield-Penfield). It consists of a Fordson mounted on a grader, the entire unit weighing more than three tons. It is operated by one man and has an eight foot reversible blade.

Recently while on the Kaibab I spent a day with the machine on the Grand Canyon Highway, and even took the wheel for awhile myself. I'll state here that a beginner certainly has his hands full steering the grader and manipulating the blade at the same time. The man who has been operating the machine all spring didn't seem to be bothered any. He is maintaining 67 miles of road, with the occasional help of from 1 to 2 men to do hand work, such as throwing out loose rocks, cutting roots, etc. Fifteen to twenty miles of road can be covered in a day on light maintenance. The miles maintained daily would ordinarily be half of this, or eight to ten, on account of having to make two trips to cover the entire width of roadway. The day I was along we covered 14 miles or completed 7 miles, running practically all the time on second gear and using low gear only where the blade was set deep for digging. The speed is regulated by a governor. Gasoline consumption averages from eight to ten gallons a day on this class of work. The daily cost, including only gas, oil and driver wages, will be about $10. The driver moves his camp in a trailer, which also hauls his gas, oil and water when necessary. Light maintenance or dragging is done while moving camp. The power seems to be equivalent to at least four 1400-pound horses, when the engine is in low gear. The only doubt I have concerning the machine is with regard to its adaptability for spring use on roads having bad mud holes. For summer and fall maintenance it undoubtedly is much more efficient and economical than horse power. We are considering the advisability of using them on a few other Forests.- J. F. B.

To Preserve Tents: Ranger Swapp of the Kaibab Forest states that in putting tents away in storage where mice are liable to bother them, damage can be prevented by sprinkling black or cayenne pepper over each tent before folding it. A small amount of pepper seems to be sufficient to keep them out. He suggests that this has worked well in places where prior to the use of the pepper, mice had bothered the tents considerably.- C. F. E.

DISTRICT 5 - CALIFORNIA DISTRICT

Air Patrol Ready For Action: The airplanes assigned to this District for patrol work have now reached their bases and are ready for duty. All of our planes are of the metal fuselage type, while those assigned to the other Districts are of the wooden type.

At Mather Field, Norman W. Potter of San Francisco, who holds the rank of Captain in the Officers' Reserve Corps, is in charge of the detachment of two pilots and three mechanics stationed there. Captain Potter is an experienced flyer and has been flying planes at Crissy Field during the past three years regularly. The other pilot, Paul A. Andert of San Diego, is a Second Lieutenant in the Reserve Corps, and flew on air patrol work in Oregon and Washington in 1920 and 1921.

At Griffith Park, near Glendale, California, Charlie N. James of Los Angeles, First Lieutenant in the Reserve Corps, is the pilot in charge. He has been on National Forest air patrol previously, flying out of March Field.

The mechanics are all former members of the enlisted personnel of the Army and are well qualified by experience and training to keep our planes in shape. The men at Mather Field are C. De Valshon, O. O. Hansen, and B. T. Torrey; At Griffith Park, H. C. Babcock and R. L. Polk.

First Lieutenant Lloyd Barnett of the 91st Squadron, Air Service, has been detailed by the War Department to the Forest Service to assist in handling the technical details of the undertaking. Mr. Hess of the D. O. is at Griffith Park now and will probably be at Mather Field later on in the season to assist in keeping matters running smoothly.- R. L. D.

* * *

More Sign Cooperation: In order to secure uniformity in road signs and to eliminate duplication in sign posting, the Automobile Club of Southern California has offered to furnish all road directionary signs required on the Angeles, Inyo, Sequoia, San Bernardino, and Santa Barbara National Forests. Hereafter all requisitions for road directionary signs required on the above Forests will be made direct to the Automobile Club, which will furnish its well known blue and white metal enamel road markers for all roads on these Forests. It is understood that the Forest Service shield will appear on all National Forest signs.- L.A.B.

* * *

DISTRICT 6 - NORTH PACIFIC DISTRICT

District Menagerie Enlarged: While traveling through a grove of maple trees near the Snoqualmie Forest, Junior Forester McArdle was suddenly assaulted by a strange wild beast which dropped from the skies onto his shoulders and began to remove one of his favorite ears. Startled, he dashed four or five hundred yards up a steep hill, backwards, against a strong wind, and, being out of breath, paused to see what manner of animal he was transporting. Behold, it was a life-size monkey (12" tall). As the creature would not listen to reason and as the aforementioned car was in considerable jeopardy, it was necessary to secure a club and initiate a determined drive on the ape, which at length was persuaded to shin up a tree and stay there. With the Snoqualmie, we submit one monkey to be added to the District zoo, the record to be placed in the archives with the 700 (or is it 1200) cougars of the Siskiyou.

P.S.- Later it was found that the monkey was the pet of a party of cascara peelers -- evidently trained to climb the trees and peel the topmost branches, and then drop down on the heads of unsuspecting researchers?

Settlement In Full of damage and fire-fighting cost in the amount of $555.40 has just been paid by Joseph Cunha, sheep man on the Whitman Forest. Mr. Cunha's herder left a camp fire last August which spread to adjacent timber. The herder was fined $50.00 and costs in Justice court. PREVENT FOREST FIRES, IT PAYS.

Do You Know - That the Columbia Forest has among its personnel the only man in D-6 who has been awarded the Congressional Medal of Honor?

The State Forest Service of Wellington, New Zealand, last season established 11,000 acres of pine plantations. Their program for the next two years calls for the planting of 20,000 to 25,000 acres a year.

Mexico Forestal, the Journal of the Mexican Forestry Society, reports that Count Esteban Salazar Cologan, Spanish Consul at San Francisco (Calif.), has bequeathed his large fortune to be held in trust by the School of Forest Engineering at Madrid, and to be used for carrying on reforestation work in various provinces of Spain. Annual income estimated at 5 to 6 million pesetas (peseta = 19.3 cents = 1 franc; 5-6 million of'em = around $1,000,000.)

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX. No. 31. Washington, D. C. August 3, 1925.

ARE WE PLACING TOO MUCH EMPHASIS ON SILVICULTURE?

By G. A. Pearson
Southwestern Forest Experiment Station

According to Keplinger's article in the June 8 issue of the SERVICE BULLETIN we need less silviculture and more salesmanship. Because large quantities of timber are rotting in the woods he would have us slow up on production and specialize in selling.

Keplinger's reasoning starts out with the false premise that the Forest Service is a commercial concern engaged in the production and sale of timber for profit. It has always been my understanding that the primary purpose of Congress in creating the Forest Service was to safeguard the future timber supply of the Nation. Industry generally is not suffering from a lack of timber at the present time. Right now timber is being cut and marketed faster than it is used. Why then should the Forest Service dump its product on the market in competition with private owners?

If forest statistics mean anything, the time is not far distant when the demand for our forest products will exceed the supply. It is safe to say that within three or four decades there will be a ready market for all the Forest Service timber within reach. Our success will be measured by the amount of timber we can deliver when that time comes. During the next 50 years or so the supply which the National Forests can furnish will be dependent largely upon the virgin stands which are now being reserved; but after that it will be dependent mainly on what we actually grow. Any oversupply of virgin timber that may exist now is neither a credit nor a discredit to the Forest Service. It was placed there by God Almighty and it will continue to grow, or to rot regardless of the Forest Service until economic conditions are right for placing it on the market. Keplinger states that we are growing timber ten times as fast as we are using it, and that our silviculture is therefore 1,000 per cent perfect. If he is talking about net increment, I should say that he is 1,000 per cent wrong. Would that he were right, for then we should be accumulating the reserve that is needed to avert a famine.

There are those who maintain that all the timber in the national Forests should be reserved for use when the anticipated national shortage is at hand. This contention may be answered by the argument that under proper silviculture the available supply will not decrease. A stand which is logged now should yield practically as much timber in 50 to 100 years hence as if it had never been touched by the ax. But there is great danger that these results will not be attained. On the Colorado Plateau in District 3 where the Forest Service has carried on large operations for nearly 20 years, approximately half of the cut-over lands have failed to restock because of over-grazing. In other Districts, operators destroy the greater part of the pole stand which should provide the next cut, or large areas are denuded by fire after cutting. Fortunately, most of our cutting areas are left in reasonably good condition; but as a rule this is where natural conditions are very much in our favor.

can

It is well recognized that without cutting we have no forestry. On the other hand, cutting in the National Forests cannot be justified unless it leaves the land in a productive state. Operations in which silviculture is set aside in the interest of the forest user or buyer are a reproach to the Forest Service which it will take many years to live down. The big problem confronting the Forest Service is not how to sell more timber nor how to get the last two bits a thousand for our stumpage. The problem is to keep cut-over lands in the highest state of productivity. This involves more than technical knowledge. It involves most of all the ability to overcome those obstacles that stand in the way of silviculture. If this is made the foremost aim of business administration, I agree that business administration is of greater importance just now than is technical work.

--------#--------

A NEW NATIONAL FOREST

By Jacob Roeser, Jr.,
Rocky Mountain Forest Experiment Station

Fort Humphreys, near Alexandria, Va., has been included, with other Army reservations, in the growing family of National Forests. This is of especial interest owing to the fact that in the construction of Camp Humphreys a few principles of forestry were put into practice. This cannot be said of many other of our National Army camps. Under the stress of expediency existing in the days of 1917-18, thoughts of forestry and post-war use of the camp sites were given little if any consideration.

Fort Humphreys is located on an elevated bench, whose sides drop precipitously on two flanks to the Potomac River. Most of the camp site was included in the original estate of Lord Fairfax, of Colonial Virginia fame, and was well wooded when construction of the camp was begun. It was evident that much timber would have to be removed, but it was also evident - to a very few, it is true - that this cutting could be done in a conservative manner, so that the camp when completed might not be absolutely an eyesore. Luckily, the colonel then in charge was among those few. During two months of the summer of 1918 I was in nominal charge of the clearing work, and although the forestry practiced was purely elementary, I recall none during my civil and military life which I actually enjoyed to a greater degree.

While the camp was planned and constructed on the checkerboard pattern which seemed to apply to all camps, I worked under instructions which allowed me considerable leeway in marking trees for removal on proposed barrack and other building sites. More than one building was built out of line with its fellows, and in at least one instance a small building was moved across a street to save a handsome beech. I also recall distinctly refusing to mark a beautiful yellow poplar in the center of a proposed street, and the last time I passed over the ground traffic was moving by on both sides of of the tree.

The engineer in charge of surveys, a civilian who was very much his own boss, gave excellent cooperation when requested to resurvey building lines so as to avoid cutting desirable trees. This brought about many verbal clashes with contractors, who were occasionally held up in their work while we waited for the engineer. And, sad to relate, human nature showed its baser side more than once when some contractor or his men saw a chance to remove an unmarked tree and get away with it. Shades of timber sales on National Forests! However, long before the camp was completed most of the contractors were impressed with the idea of conservation. Getting the idea over was a feat in itself, especially in the face of the rampant profiteering spirit which ran roughshod over everything not directly in sympathy with it.

The War is now rather an unpleasant memory. Fort Humphreys, for all I know, may be mostly a memory. But the forest monarchs that were spared needless destruction in the days when destruction seemed to be the by-word of military necessity are truly as much memorial trees to a few men who tried to see farther than November 11, 1918, as are those especially planted in honor of a Nation's sacrifice. And one military reservation becomes a National Forest by virtue rather than by necessity.

WASHINGTON NOTES

Watch Lands Grow! Conscious, in its fatherly pride, that without its efforts Nick Carter would have no timber to sell and Bill Barnes would have no sneeze weed and loco with which to lure the dollars from the pockets of the pastoralists, the Branch of Lands hitherto has listened in silence as those luminaries have boasted periodically of the large sums which through the efforts of their respective branches have found lodgement in Uncle Sam's coffers. It will be noted, however, that the statement of receipts for the fiscal year just ended shows special uses as having the largest net gain of any of the money makers. It is reported that when the special use receipts in D-5 hit the $100,000 mark, Lew Barrett acted like a man with a new 10-pound boy in the family.- L.F.K.

It Must be the Heat: Here's a letter that arrived the other day. It came special delivery from Chicago. Read it and weep!

"Forest Reserve and Mineral

Washington, D. C.

Notice Please

Owing to shortage of water in farming in Montana and other States. Could they Please have Shade on the hills. Could the Buddies at the Soldier posts plant trees on their Soldiyers pay in the Standing army these are mere thoughts Ive had for 11 years please.

Notice

Would it be of any use to fill up old oil holes to stop earth quakes to fill with water please."

-----#-----

FOREST PRODUCTS LABORATORY

S. A. F. Says it with Movies in Wisconsin: On July 3 Governor Blaine signed Wisconsin's enabling act which provides for the purchase by the Federal Government of national forests up to 100,000 acres in extent in Wisconsin. A fact which may have had some bearing on the passage of the enabling act was the American Forest Week showing in the larger cities of movies depicting the condition of Wisconsin forestry.

The Wisconsin Section of the Society of American Foresters prepared six copies of a 200-foot trailer showing Wisconsin forest facts and scenes which were attached to six of the regular Pathe news reels. Each news reel was shown for three days in each of two cities, so that 12 of the largest cities in the State were reached during the week. It is estimated that 300,000 people saw the trailers.

-----#-----

Wood Identification Flourishing: The work of the office of Wood Technology, one of the few routine activities of the Laboratory, seems to flourish in all seasons. During the month of June [illegible] wood samples were submitted for identification from 39 sources. Five were identified as to family or class, 129 as to genus, 116 as to group, and 60 as to species. Seven foreign woods were identified. Two samples of veneer sold as "European sycamore" were found to be maple species similar in structure to our sugar maple. A piece of asbestos was also submitted with an inquiry as to what kind of wood it might be and where similar wood might be purchased.

-----#-----

DISTRICT 1 - NORTHERN DISTRICT

Killed by Lightning: The entire Kaniksu force were greatly shocked and grieved to learn of the death by lightning of Paul Blickensderfer, lookout man at South Baldy Mountain, at 4.30 o'clock on the morning of July 12. At the time the bolt struck, Carroll, Murray, Blake, and Blickensderfer were in bed at the lookout cabin. Murray was the only one awake. Having heard the storm approaching he was about to get up and watch for lightning fires, when he saw the bolt flash down the stovepipe and spread out over the floor where Blake and Blickensderfer were sleeping.

In the passing of "Blick" the Service has lost a faithful and cheerful co-worker, one who always looked on the bright side of life and who could be absolutely depended upon to do his duty. Life was snuffed out just as he was entering the period of his greatest usefulness to the cause of forestry.

Forest Revenues Appreciated: Every Forest officer has often thought how wonderful it would be if the cut on every National Forest were close to its sustained yield, if the grazing receipts represented practically a full use of the Forest, and if other income-producing activities were developed to their full measure in demonstrating the value from a financial standpoint of the Forests to the counties in which they lie. The 25 per cent fund would go a long way in reducing taxes in the counties.

Not long ago a prominent man in Pend Oreille County, Washington, who is a State legislator, remarked that the 25 per cent receipts of that county amounted to something like $17,000, and that the county commissioners in setting tax levies had taken this into consideration and were able to make certain reductions in taxes on account of it. There is no difficulty in getting favorable reactions to forestry and extension of National Forest administration to absolute forest lands in a county like this. Let us hope it won't be long before there are many more counties in which the proper handling of forest lands becomes strong because of an appeal through the pockerbook.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Big Tie Drive in Wyoming: The Wyoming Tie & Timber Company, which has been operating on the Washakie for the past 11 years, is taking out the largest railroad tie drive in its history. The drive includes 650,000 railroad ties and is the largest drive made in the Rocky Mountain region since the establishment of the National Forests. Conditions have been very favorable for railroad tie production during the past year, which accounts for the large production. A reduced scale of operation is planned for next year - the normal cut averaging about 300,000 ties each year, an output which can be sustained..

Portable Sawmills on the Medicine Bow have proved a decided success, and three more have just been purchased and put into operation. These mills can be taken down, moved, set up again, and started all in one day, and it has been found profitable to move them for even as few as 1,000 logs. They are usually operated with Fordson tractors. In most instances two tractors are used.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Newspapers Alive to Fire Dangers: The editor of the Tombstone (Ariz.) Epitaph says a closure to campers would help. "With the lesson before us of the fires in the Chiricahuas and Huachucas," he writes in commenting on two recent disastrous fires in the Coronado Forest, "it does seem that the public would take heed to the appeals of the forest officers and the widespread appeals made through the press of the county and State. If the forest officers should issue an order closing the forests to campers and others who build fires within the forest, they would help make the forests safe, and such an order should be enforced up to the starting of the rainy season."

An editorial in the Silver City (N.M.) Independent has this to say:

"Each person who goes into a national forest to enjoy the shade, the streams, the quiet and peace of "God's first temples," should constitute himself a committee of one on prevention of the destruction of our trees. The American public is one of the greatest offenders in forest destruction because of its carelessness with fire. Matches are kept away from small children who have no sense of responsibility. This should not be necessary in the case of adults. One tree will make a million matches, and one match can destroy a million dollars' worth of trees. The future of our Nation depends largely upon a lasting supply of timber. We have no trees to burn."

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Now You Tell One! Solomon was universally acclaimed a wise party when he based one of his court decisions on the fact that a mother knows her own offspring. Now comes a Ranger, a man with much honor in his own country, and highly regarded as a man of truth and veracity, who claims to know the results of his own handiwork.

It seems that a certain man doing team work on the Scipio Road during the lay-off found time to cut himself a load of juniper posts on some of the nearby country. He piled them neatly near his camp till such time as he should be able to take them down to his farm. The Ranger came along, as Rangers have a habit of doing, saw the post pile, looked it over, and said to the teamster, "You cut some of those posts on the Forest." This the teamster denied.

The Ranger after a close inspection of the post pile decided that 15 posts had come from Forest land, went to the area where the teamster had been cutting, and found just 15 stumps inside the Forest boundary.

The teamster was astounded, but admitted that in working around among the trees he might just possibly have gotten across the line without noticing any signs, and agreed to pay for his posts on an innocent trespass basis. He still wonders if that Ranger is gifted with supernatural powers, for to him a post is a post. The Ranger when questioned about his ability to tell the difference between juniper posts grown on either side of an imaginary line claimed that the bark grew tighter on his trees, but under pressure admitted that the posts on the outside country had been culled over till no good ones remained, while he had been marking inferior stuff on the Forest and still had good posts left.- M.D.

--------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Spark Arrester and Outside Exhaust Study: At the close of the recent conference with lumbermen regarding fire protection requirements, the Forester requested that Forest officers of District 5 cooperate with the lumber industry in a study of spark arresters with the thought that it might be possible to discover or devise a type of arrester which would prevent the emission of sparks and make outside exhausts unnecessary. Preliminary arrangements for this study have been perfected.

The work will be under the direction of S. R. Black, Secretary of the California Forestry Committee, who will handle it in cooperation with representatives of the Forest Service, the State Board of Forestry, and the California White & Sugar Pine Manufacturers Association. The California Forest Protective Association will contribute Mr. Black's time, and the California Forestry Committee will pay field expenses up to the amount of $900. The California White & Sugar Pine Manufacturers Association will assist by securing cooperation of the pine operators in California and in various other ways. Both the Forest Service and the Manufacturers Association may provide limited additional funds if those on hand are insufficient. The Forest Service and other members of the Forestry Committee are under no obligation to accept the findings of the study or to adopt any particular type of spark arrester in woods work, but it is hoped that a type will be discovered or devised which will be acceptable to all and which will make the use of outside exhausts unnecessary. The study also contemplates the securing of all possible information in regard to the efficiency of donkeys operating with outside exhausts and the effect of outside exhausts in the prevention of spark fires.

A similar study is being conducted in District 6 and an effort is being made to correlate the work undertaken in the two districts.-T.D.W.

The "Winged Wash": The little settlement of Jerome, Siskiyou County, Calif., may be entirely innocent of union passenger terminals, million-dollar libraries, and sky-high business blocks, but it has one feature of modern progress that the biggest cities lack. That is airplane laundry service.

Every few days an aircraft wings out of Klamath Falls to Jerome, 45 miles away, picks up the week's wash and takes it to be scrubbed and ironed in an up-to-date Klamath Falls laundry. Deliveries are made in the same way.

* * *

Jove Turns Hunter: During a lightning storm on July 6 on the Scott District of the Shasta Forest, a five-point buck was killed by lightning that struck in a group of four live trees and set a fire. The fire burned over an area 200 yards long by 100 yards wide before it was controlled. The deer was slightly scorched and one horn was burned off.

* * *

DISTRICT 6 - NORTH PACIFIC DISTRICT

Developing a Super-Tree: Mr. James G. Eddy, a prominent Washington lumberman, has recently endowed a small research organization to be known as the Eddy Tree Breeding Institute, the purpose of which is to investigate the possibilities of propagating forest trees of exceptionally rapid growth. Mr. Lloyd Austin of the University of California, who is to direct the activities of the new organization, hopes to be able to apply to forest trees some of the principles developed by Burbank in his work with walnuts.-R.E.M.

* * *

Massachusetts Forestry Association Comes West Again: Following the practice of many years, which was omitted last year, a party of members of the Massachusetts Forestry Association under the direction of their live secretary, Harris A. Reynolds, visited the North Pacific District July 23-30. This is a part of their annual tour of the National Parks and the National Forests of the West.

Supervisors of the Wenatchee, Snoqualmie, Rainier, Mount Hood, and Crater Forests met the party and offered to cooperate with Mr. Reynolds in any possible way.

* * *

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol IX. No. 32 Washington, D. C. August 10, 1925.

ANOTHER HIGH HUMIDITY EFFECT

By L. F. Hawley, Forest Products Laboratory

The article by Mr. Gisborne in a recent number of the SERVICE BULLETIN suggests still another effect which the humidity of the air may have on forest fires. In most of the discussions on this subject it is emphasized that high humidity of the atmosphere is favorable in suppressing forest fires on account of the fact that the fuel for the fires naturally contains more moisture and therefore does not burn so readily. Mr. Gisborne's statement of another possible effect of high humidity, although it is a secondary effect of the conditions frequently accompanying high humidity, is probably correct as far as it goes, but we believe that this effect is considerably less important than that of the high humidity on the composition of the air itself.

Air as such is composed of about four parts nitrogen to one part oxygen. Even when the humidity is high, so that a considerable proportion of water vapor is present. the ratio between nitrogen and oxygen remains unchanged. The aid which air gives to combustion is approximately proportional to the amount of oxygen present. If in an atmosphere of very high relative humidity there is as much as 5 per cent water vapor, the proportion of oxygen in the total mixture is reduced by just this amount, and therefore the ability of the air to support combustion is reduced by the same amount.

It would seem, therefore, that the second largest effect of high humidities on forest fires may be due to the reduction of the proportion of oxygen in the atmosphere.

------#------

BLISTER RUST CONTROL WORK IN DISTRICT 1

By Fred Morrell, District Forester

The blister rust control work being carried on by the Bureau of Plant Industry in cooperation with the Forest Service is a piece of work unique in western National Forest districts. The white pine blister rust is in British Columbia and over the line in Washington, and in a brief period of years, it is expected, will reach the north Idaho white pine stands.

The control method in the woods consists in the eradication of the ribes plants which serve as a host for the blister rust. The production of a future crop of white pine in north Idaho will in all probabilty require the eradication of ribes from the sites on which the pine is to grow. The Office of Blister Rust Control is carrying on experimental eradication on a large scale for the primary purpose of determining the control methods and costs. At the present time 70 men are employed on the Priest River drainage in the Kaniksu Forest in ribes eradication. College students only are used, it having been found from experience that they are the best form of labor available. In addition to the eradicating crews, the Office of Blister Rust Control has a force of four ecologists in the field for the purpose of determining through scientific investigation some of the factors, such as light, soil and moisture conditions, and association of species which influence ribes growth.

Another experiment is being started to determine, if possible, in very young stands of white pine in mixture with other species, what the proportion of white pine is likely to be when the stand reaches maturity. This is obviously necessary in order to be able to predict whether or not the cost of ribes eradication in the young stands will be justified by the amount of white pine that will exist in the stand when it is ready for harvest.

Eradication work is done by crews lined up in form similar to planting crews. The usual crew is five men and foreman. They comb the woods systematically, the outside man dropping a paper line for guidance of the crew as it comes back and the foreman following up the crew to keep the formation and to watch for any ribes missed. Plants are eliminated by pulling and hanging or laying them up where the roots will be exposed and away from the soil so that the plants cannot reestablish themselves. Scrambling through dense young growth in down timber and up steep mountain sides looking for ribes plants in a mass of other material on the ground is a monotonous and irritating task. The good humor and comradship existing among the students makes it possible to carry on the work with that form of labor where the ordinary woods worker would give up in disgust.

------#------

LOST -- ONE PERFECTLY GOOD RAIN

By A. G. Simson, Pacific Northwest Forest Exp. Station.

It is generally conceded that the forest absorbs a certain amount of the rainfall before it ever reaches the ground, but perhaps few people have fully realized just how great is the amount of water absorbed by the crowns of the trees. Data from two nearby weather stations in the Wind River Valley bring out some rather startling facts. One of these stations was in an open area; the other station was under a nearby mature Douglas fir forest.

On the evening of May 27, 1925, a light but steady rain began and continued for several days. The record of precipitation at the two stations is as follows:

	Station in open	Station under forest
May 28	.55 inches of rain	.10 inches of rain
May 29	.17 " " "	.02 " " "
May 30	.16 " " "	.005 " " "

During the three days of rain, nearly .9 inches of rain reached the ground on the open area, but only a little over .1 inch of rain reached the ground under the forest. In other words, so far as the greater portion of the forest floor is concerned one very good rain was "lost in transit."

Of course it is true that evaporation and run-off are less on forested areas than on areas not forested. But how much less? Surely not 80 per cent. It is quite apparent that the silviculturist and firefighter may glean some interesting information from data on precipitation and evaporation within the forest.

------#------

WHAT COMPRISES SUITABLE SEEDBED CONDITIONS FOR SPRUCE AND FIR?

By M. Westveld, Northeastern Forest Experiment Station.

Last year a series of permanent sample plots was established in the spruce region of the White Mountains in New Hampshire by the Northeastern Forest Experiment Station. Different methods of cutting were employed to determine their effect on the growth of the residual stand and on the amount and kind of reproduction coming in following logging as well as on the subsequent development of the advance reproduction. Although a relatively short time has elapsed since their establishment, a reexamination of the plots this spring showed some interesting results in connection with the germination of the new crop of spruce and fir seedlings.

Foresters recognize that seedbed conditions play an important part in the germination and ultimate survival of reproduction, and may to a large extent determine the composition of the succeeding crop of timber.

In order to secure data on this problem, 16 small intensive reproduction plots were established on the major sample plots. On 8 of these all of the litter, consisting of half-decomposed leaves, branches, rotted logs, moss, and herbaceous vegetation, was removed, completely exposing the soil. The remaining plots were left undisturbed.

Fortunately a good crop of seed was borne last year by both spruce and fir. A tally of the newly germinated seedlings this spring on both the exposed and undisturbed plots shows some striking comparisons. The exposed plots show an average of 28,125 spruce and fir seedlings to the acre, [illegible] per cent of which are balsam fir. The undisturbed or check plots show an average of only 3,750 coniferous seedlings, all of which are fir. Observation on other exposed areas, such as skid roads, where conditions are comparable to those obtaining on the exposed plots, also show numerous seedlings. Where the forest floor had been left undisturbed, but few seedlings were noted.

Too much significance should not be attached to these figures, because it is possible that the large number of seedlings found on the exposed plots is due to earlier germination. The dark, exposed soil may absorb more heat, and the seed, being in direct contact with the soil, may [illegible] conditions conducive to early germination. Leaf litter on the undisturbed plots may tend to defer germination more or less. Ungerminated seed was found among the dry layers of hardwood leaves. Conditions there, apparently, were not suitable as yet for their germination.

The small percentage of spruce germination may be due in part to a smaller supply of spruce seed, but the complete absence of spruce seedlings on the check plots would indicate that spruce may be more exacting in its requirements, and that fir responds more readily to factors which influence germination.

A consideration of the data and factors probably justifies the conclusion that exposed soils such as one would find in skid trails, skid roads, and log landings, where the litter has been dragged away and the ground disturbed, encourages the early germination of spruce and fir seedlings.

------#------

WASHINGTON NOTES

Camps for Swivel Chair Foresters: Some members of the Washington Office who own cars and enjoy camping may like to know that there are two delightful camping grounds within 100 miles of [illegible] recreational country is none too plentiful in the region around the District of Columbia, yet the forests of Pennsylvania and Virginia offer chances for delightful camps within five hours run. One of these is Elizabeth Furnace on the Massanutten Division of the Shenandoah Forest, at an elevation of 500-800

[illegible]

feet in hardwood timber. The camp site is on a flat 5 miles up a real canyon, on Passage Creek. The canyon is entered from Water Lick, which is a little cross-road community on the road to Strassburg. There is an old house and a ruined iron furnace which may have made metal for cannon balls during the Civil War.

The Forest Service has provided sanitary conveniences, a concrete fireplace for cooking, and an excellent spring boxed in with concrete. The mountains on either side afford attractive opportunities for hiking to elevations of 1,000 to 1,200 feet. This site can easily be reached in five hours, taking the route through Falls Church to Fairfax Court House, and thence westward. The people in the region are very pleasant and courteous country folk, and here Washingtonians would soon acquire the habit of nodding and saying "Good morning" to every passerby. It is good to have such a delightful recreation point on a National Forest so near to the Capital. This is a rather secluded place, and you will not be annoyed by a crowd. If desired, return can be made through Harpers Ferry.

The other camp is maintained by the State of Pennsylvania in the Michaux State Forest on the Lincoln Highway 14 miles west of Gettysburg. It is called Caledonia Park. The elevation is possibly 1,400 feet, and here a great deal of northern white pine is seen, and some planting operations. Mount Alto Forest School is 14 miles southward. Several large summer hotels are nearby and they have golf links which are available to pill-smiters. A beautiful clear stream flows through the camp site, and there is a concrete swimming pool fully 200 feet square, fed from the stream, which provides excellent bathing, though the water is a trifle cool. Many campers stop here, but there is plenty of elbow room.

I tried both of these sites during the month of July, leaving Washington early Saturday morning and returning Sunday afternoon. To get the best out of it, however, one should really have an additional day. The roads are better in Pennsylvania, but there only a few miles of difficult road in reaching Elizabeth Furnace. At neither site did we suffer from mosquitoes, but there were a few black flies early in the evening at the Virginia camp.

If you want to see what real white pine looks like, or say that you have camped on a National Forest, get busy and roll the old "Lizzie" out of the shed next Saturday morning. Be sure to take enough blankets and a sweater. Buy your bacon and fixins in Gettysburg, after rolling through the Battlefield.-R.V.R.

------#------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Assistant Secretary Dunlap Visits Denver: Assistant Secretary of Agriculture Dunlap paid Denver a visit in connection with his attendance at the Western Farm Bureau Conference in Fort Collins. He has been particularly interested in the subject of grazing and has met several representative stockmen at meetings both in Denver and in surrounding communities. One of the interested stockmen, and an active member of the National Association, accompanied him on a hurried trip through the Pike and Arapaho where from an automobile highway something could be seen of the high ranges. Timber management also was brought to his attention and the Moffat Tunnel visited. Secretary Dunlap seemed to be very much interested in all Service activities, but because of the interest that is now being given to the subject of grazing, he was particularly concerned about the situation in the District and inquired in great detail about the range management.

Scoutmaster Talks on the Work of the Forest Service: The following table shows some unsolicited cooperation on the part of a Denver Scoutmaster in the form of lectures on the National Forests and the work of the Forest Service:

6 talks before Boys Clubs, average attendance	40	240
8 " " Scout Troops " "	35	280
1 " " Scoutmasters "	30	30
2 " " Schools " "	600	1,200
Total, 17 --		1,750

College Students Receive Practical Instruction: The forestry class of the Iowa State Agricultural College, at Ames, Iowa, received summer instruction on the Minnesota National Forest this year. The class was in charge of Professor J. A. Larson, formerly connected with the Priest River Experiment Station.

Livestock Conditions over District 2 are unusually favorable, and in some sections beef will be taken from the range a month earlierthan usual. Crop conditions throughout the entire Western Slope are also excellent and a more hopeful feeling is in evidence throughout the western half of the State, Sections of eastern Colorado have been extremely hard hit by drought.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Forest Information Being Published: The official journal of the Automobile Club of Arizona for April contains about half of the Forest Service pamphlet "National Forests of Arizona." The remaining part of the pamphlet will appear in the May number. Apparently this magazine considered the information of sufficient interest and importance to give it publicity through its pages.

Pinching Down The Acreage: The Tusayan Forest challenges any National Forest in the United States in the efficiency of its fire-fighting organization. It is realized that this challenge extends to a vast territory. A fire report recently received states: "Area fire upon arrival 1/6 acre; final area, after 30 minutes fire fighting, 1/7 acre." Not only does the Tusayan hold them to the size they are when work is started, but by pinching them in it reduces the area.

Will Seek Views in Southwestern Forests: Edwin F. Dreher, a photographer whose work follows the line of pictorialist and whose productions have been sent to international exhibitions the world over, advises that he expects to establish winter headquarters in Tucson in December and from there will visit several of the National Forests in southern Arizona and southern New Mexico in search of subjects of unusual pictorial beauty. Next spring Mr. Dreher plans working over the forests of northern New Mexico and southern Colorado.

DISTRICT 4 - INTERMOUNTAIN DISTRICT

A "Bear" -ing Situation: Recently Ranger Park of the Ashley, in company with a local stockman, was riding the Red Mountain cattle division of the Wyoming region of the Ashley, and upon entering a thicket of lodgepole pine timber ran into six bear, three of which were cubs. Ranger Park's horse became unmanageable and in its scramble for escape got tangled and threw itself, pinning one of Park's legs beneath it. At that moment one of the bears made a mad rush at the dog which was with Park, passing within a very few feet of Park in his entrapped position, thus adding another uncomfortable feeling to his already serious predicament. Upon becoming freed from the horse, Ranger Park claims to have succeeded in overtaking his fleeing companion with ease. When he returned to the scene some 30 minutes later, the bears had disappeared. The horse had not been attached and was still fast.

Ranger Park is feeling very fortunate to think that he had not been selected to supply the menu at the reunion of the bruins and is of the opinion that the life and work of a Forest Ranger is rather strenuous.

DISTRICT 5 - CALIFORNIA DISTRICT

San Bernardino Forest In Movies: The H. Jane Raum Productions, Los Angeles, are about to finish a moving picture film which will probably be entitled "Eyes of the Forest," a forest ranger series dedicated to the U. S. Forest Service. On June 15 they filmed Secretary of Agriculture Jardine and Supervisor Nash-Boulden at the Santa Fe station. They also filmed a picture scene at the Supervisor's office in San Bernardino in which Assistant Supervisor Joken and Executive Assistant Beeks were temporary actors. Practically all of the scenes of this picture are laid in the San Bernardino Forest around Big Bear and other areas. From a conversation with the manager of this moving picture outfit it appears that a noteworthy picture which will do the Forest Service quite a bit of good is being made.-S.A.B.

Unique Fire Warning: The Standard Lumber Company of Standard, Calif., in connection with their fire prevention campaign, are using a rubber stamp warning on all pay checks. This bears the slogan "Be Careful of Accident and Fires," preceded by a warning hand within a circle with the words "Safety First." Thus employees who do not read warning signs and notices posted on the grounds have the subject brought to their attention twice each month, where they cannot possibly overlook it. This message also reaches beyond the employees, since pay checks usually pass through one or more hands before finally reaching the bank.

Special Use Receipts: A tabulation of D-5 receipts for 1925 shows that we are now permanently in the $100,000 class on special use receipts, having exceeded the above figure last year by several thousand dollars. While it took over 20 years to reach this first hundred thousand, it is a cinch bet that we will reach the $200,000 class in special use business within the next five years. So, have your eye "peeled" for the 1930 figures.-L.A.B.

PUT YOUR CAMP FIRE OUT

Just how at least one Forest officer feels about careless campers who partake of the hospitality of the National Forests is rather strikingly brought out in the following lines written by J. B. Camman of the District 2 office:

I want to be a murderer and with the murderers stand;

A bloody knife between my teeth, a bludgeon in my hand.

I'll stand before a jury of solemn-visaged men

And say I slew my victim and would do the same again.

I'll tell them that I hit him, cut his throat from ear to ear,

'Cause he came upon my Forest in the driest time of year

And left his camp fire burning in the rubbish round about;

That he wouldn't heed the warning: "Put Your Camp Fire Out."

This thing of fighting forest fires is not the nicest kind of life,

And I'm giving timely notice I'll be there with club and knife;

And I'll get that fool gazabo--of that there is no doubt--

If he doesn't heed that warning: "Put Your Camp Fire Out."

RANDOM RHYMES FOR THE FIRE SEASON

Even in Canada the old poetical "bug" bites. The following verses, sent in by District 6, were inscribed by W. H. Currie and appeared in CANADIAN FOREST AND OUTDOORS:

Here lies what is left of PHILBERT A.
Who let his Camp Fire get away.
Though Phil ran fast, the fire ran faster,
And PHILBERT shared the disaster.

Old SILAS K. was level-headed
And fire at HOME he'd always dreaded.
But in the WOODS he'd clean forgot
That Fire is Fire WHEREVER met!

A sprightly dame was MINNIE MAY.
"Ain't Nature just too sweet," she'd say.
The picnic fire that MIN forgot
Burnt off a forty acre lot.

Said ANDY GUMP, "I like it rough.
I like this red-blood backwoods stuff!"
Then lit his fire against a stump -
For such a man was ANDY GUMP.

Young GEOFFREY J. loved Nature well.
"B'Gosh," he'd say, ain't Nature swell!"
Then toss his glowing stubs around
And burn the Forest to the ground.

"This is the life," cried CEDRIC J.,
"to eat beneath the greenwood tree!"
But what a mess he left behind,
Of cans and crusts and bacon rind.

------#------

FIRE DAMAGE ALLOWED FOR YOUNG GROWTH

The report of the State Park and Forest Commission of the State of Connecticut, for 1924, carries this rather interesting bit of information:

On April 28, 1924, a destructive forest fire swept over a considerable part of the Simsbury State Forest, of Connecticut. The fire was due to the carelessness of the section forman in burning brush on the right-of-way. A claim was submitted against the railroad company for damages caused by the fire. In estimating the value, the expenditure made on the care and up-keep of the fire lines was taken into consideration as well as the original cost of planting. Thirty acres of natural hardwood growth, small stuff, was valued at $10 per acre. Twenty acres of Scotch and white pine plantations, 11 years old, was valued at $57.27 per acre. The total claim was $1,445.40. After investigation of the burn by experts employed by the railroad company, the claim was paid in full.

------#------

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

Vol. IX. No. 33. Washington, D. C. August 17, 1925.

HOW THE ARIZONA GRAZING SITUATION WAS WORKED OUT

By William B. Greeley

A considerable grazing problem developed in Arizona last spring. The State is going through one of the most severe droughts in its history. There have been six years of less than normal rainfall, and the losses in the cattle industry have been exceptionally high, in many herds from 30 to 60 per cent.

The economic depression in the cattle business is still very acute. Many of the cattlemen are insolvent, and in fact the cattle business of the whole Southwest is in an extremely precarious condition. The sheep industry is on a better footing because the market conditions are better, although the sheep industry of Arizona is suffering on account of the drought. Last winter their range on the desert was very largely a failure and the sheepmen had to resort to the purchase of ranch feeds, alfalfa hay, and pasturage, often paying as high as $8.00 per head for winter feeding that under normal conditions would have been avoided.

Mr. Pooler, Mr. Rachford, and I spent three weeks going over the ranges. There is no question that many of them are overstocked and that the forage has been seriously depleted from overgrazing. There is also no question that on a portion of the yellow pine type reforestation has been completely stopped for the last 15 or 20 years, and that this condition is due primarily to overgrazing. On a large part of the area, there has been satisfactory reforestation since fire protection began. This is perhaps true of two-thirds of the pine belt on the Coconino Plateau. On probably 200,000 acres, reforestation has practically stopped for the last 20 years.

The District Forester and Supervisors, in preparing for the 10-year permits which were generally issued in the District this season, had checked the carrying capacity of all the ranges and had worked out the reductions believed to be needed. On the sheep in the National Forests of the State the reductions averaged around 20 per cent, mainly on the three northern Forests - Sitgreaves, Coconino, and Tusayan. On cattle the reductions averaged somewhat less.

One of the reasons for the cuts was the continued damage to pine reproduction on the Coconino Plateau and the purpose of the District in accordance with its approved plan, to bring the grazing down to a point where the damage to forest reproduction would not be serious. The sheepmen felt that the cuts, which ranged from 10 per cent to as high as 40 per cent on individual permits, would so reduce the herds as to greatly increase the cost of production and make continued use of the National Forest ranges very precarious. Accordingly the Wool Growers' Association had appealed from the District Forester's decision.

The Cattle Association, after going over the whole question with Mr. Pooler, had agreed to let the reductions stand, subject to such adjustments as the Supervisors might find it possible to make.

After a lengthy meeting with the Wool Growers' Association at Flagstaff, a plan was finally worked out for meeting both the immediate emergencies of the livestock industry and the requirements of good resource administration. The worst form of damage has been the dual grazing of both cattle and sheep on the same area. It was felt that unquestionably there are too many livestock on the Forests and that the reductions to the degree outlined by the District would probably have to be made; but it was also our belief that it was equally important to get a better basis of range management started under which we will be able to do away with the injury of dual grazing and fix the responsibility for the condition of each allotment. Accordingly a plan was worked out under which we will put the sheep and cattle on separate allotments; we will also undertake as far as possible to put the individual permittees on separate allotments; we will ask the permittees to help us on a fifty-fifty basis in the cost of fencing, range improvements, etc., in carrying out this program; and we will suspend the reductions for a year and give the stockmen every chance to bring about the improvement needed in range and timber conditions by better methods of management.

By thus changing the original program of the District Forester, beginning the reductions one year later than at first proposed, I think it is fair to say we have done two things. First, we have launched a system of range management that in my judgment is going to decrease the damage to young timber and lay the foundation for much better forage conditions in the future. In the second place we have made a concession to the livestock business in Arizona because of the situation they are in, by deferring the application of the reductions for one year. The leaders of the Association agree that the Service is doing right in protecting the young timber growth, and that in the long run if their grazing cannot be so adapted as to prevent serious damage to the young growth the grazing will have to go. We have taken that as our starting point. We are going to concentrate the next year on getting the best system of range management we can devise into effect so as to avoid damage, and will then follow that up by such cuts as will have to be made, giving the industry another year's breathing space to make the adjustments.

-------#-------

SENATE COMMITTEE HEARING IN ARIZONA

By William B. Greeley

While in Arizona I attended the hearings of the Senate Committee appointed to investigate matters relating to National Forests and the public domain. A number of complaints were presented to the Committee, and also a number of very fair and constructive statements. The President of the Arizona Cattlemen's Association made an excellent statement in which he largely supported the work and methods of the Forest Service, as did also the Chairman of the advisory board of that Association. The Manager of the Water Users' Association of Salt River Valley also made an excellent statement in support of protection and regulation of grazing on the important irrigation watersheds of the State.

The three outstanding matters concerning the National Forests which were raised before the Senate Committee were (1) to have the grazing fees fixed at the cost of administration; (2) to provide for a board of appeals, more or less like the board set up in the Phipps bill and with authority superior to that of the Secretary; (3) to give the greatest possible stability to grazing permits. The idea was developed that grazing permits should not only run for ten years, but that no reductions should be made during that period. The stockmen were asked if it would not be better to have the grazing permits put on an acreage basis and then use their own judgment as to the numbers of stock they would graze. Quite a number advocated this, but the thing which seemed to be uppermost in their minds was that there should be greater stability of range use; they expected to lease the range from the Government on a permit or contract basis, but would like to get a 10-year permit as secure and definite as possible.

Another important matter discussed at the hearings was the disposition of unreserved public lands. About 60 per cent of the witnesses advocated that the unreserved public lands be turned over to the States. Probably 30 per cent advocated a federal leasing system; a few wanted to leave them just as at present; while still others advocated the principle of the 640-acre grazing homestead, carried out to its full logical conclusion with applicants enabled to homestead enough land to establish a livestock ranch.

The apparent desire of the Committee is (1) to fix grazing fees at cost of administration plus possibly a percentage that should go into range improvements; (2) to establish a board of appeals independent of the

Department; (3) to enact legislation that would provide definitely for a grazing contract, or some way of giving permits more complete legal standing; and (4) either to turn unreserved public lands over to the State or adopt a federal leasing system.

The idea of a vested, or property, right in grazing is being agitated to some extent in the West this summer, but it scarcely came up at all in the Arizona hearings of the Senate Committee. In connection with the discussion of a leasing system on unreserved public lands, there was some advocacy of taking non-timbered lands out of the National Forests and throwing them into public domain grazing districts, although a good deal of sentiment was expressed in favor of protecting irrigation watersheds.

An impression obtains in some well-informed quarters that the main thing the stockmen want is legislation giving Grazing a legal status on a contract basis. Undoubtedly there are several groups among the stockmen with varying shades of radicalism in their viewpoints. A law that would authorize the Secretary to put the use of forage on the same sort of contract basis as the use of timber would not be objectionable. Neither would a provision for a review of local decisions of an administrative character by local boards of appeal, if their conclusions were made subject to further review and final decision by the Secretary of Agriculture. The real trouble with the present system from the stockmen's standpoint is not that reviews of appeals in Washington are perfunctory, but that they are too far off.

Setting up local boards of appeal composed of representatives of stockmen and a Forest Service man would be in the nature of an extension of the same principle that underlies the present functioning of the livestock advisory boards in certain directions. But a board of appeals superior in authority to the Secretary of Agriculture could not be consistently established, as this would mean a divided responsibility. It is essential that administration should head up to a single source of authority.

-------#-------

WASHINGTON NOTES

Dog Days: The middle of August finds the Washington office pretty well depleted of personnel. The Forester, the Associate Forester, and Assistant Foresters Barnes, Headley, Norcross, and Clapp are among those in the field. Assistant Foresters Kneipp, Carter, and Smith are holding the works. With the slackened pressure of business many of the office force are taking annual leave. After Labor Day the Atlantic Building population will take a climb back toward normalcy.

Miss Hadden Touring in Norway: Miss Selma Hadden of the Stenographic Section, who for many years has been "setting type" for this Bulletin, is having a splendid vacation in Norway. Miss Hadden has written very entertainingly of Norway's forest conditions. In a letter to Miss Adams she writes, among other things: "On a motor trip from Vadheim to Sandene I noticed particularly the fine woods and great clumps of young trees along the whole route. The fields were fringed with well-populated stands of young growth and the mountains were heavily covered with timber."

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Bad Lightning Fires: During the two days of July 29 and 30 more than 100 fires were set during electrical storms on the Kootenai, Kaniksu, and Clearwater Forests, and not less than 10 of these developed into Class C fires within two days.

The most serious conditions have prevailed on the Kaniksu Forest, where three large fires are proving troublesome. With the occurrence of new Class C fires on the Clearwater, the zone of burning fires is spreading to a country which offers more serious obstacles to successful fire suppression.

The number of fires occurring during the period July 10-20 was 328, a number never exceeded for the same period except in 1919, when 346 fires were started. Class C fires have been held to approximately 10 per cent of the total.

-------#-------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Governor Pinchot Visits Denver: Gifford Pinchot, Governor of Pennsylvania, and Mrs. Pinchot visited Denver during July. Governor Pinchot was entertained at luncheon by the Chamber of Commerce, on which occasion he delivered an address on "Giant Power," warning his hearers against a monopoly which would prevent the consumers of electric power from sharing to the extent that they should in the economies to be effected by the pooling of power resources.

He also touched upon the forestry movement and the Forest Service, reminding his hearers of the old days when the Forest Service was looked upon with suspicion in the West and comparing it with the favorable attitude which he now noted in his travels. He spoke very frankly of former

Secretary Fall's efforts to dismember the Service and warned against another movement which is now forming in Washington, and which he believes will take shape next winter through the reorganization plan of the administration, to make changes which would have serious consequences to the Service.

Mrs. Pinchot was entertained by the club women of Denver at a luncheon, where she spoke on the subject of observance of prohibition laws. About a dozen members of the Forest Service attended the luncheon given Mr. Pinchot. It was a great pleasure for them to meet G.P. again.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Cow-Proofing Cattle Guards: Road Engineer Young is trying out an interesting experiment on cow-proofing some of the cattle guards on the Mormon Lake-Long Valley Road. The local cowmen expressed a doubt, some time ago, whether the cattle guards on the drift fence crossings which had been constructed on this road would prevent cattle from going through. In order to make the guards doubly sure Engineer Young nailed a green cow hide on each of the guards. He is so firmly of the belief that this will effectively stop cattle from crossing that he has offered a liberal reward to the first cowman who can prove the contrary. So far no claims have been made. Recently he was walking down the road and noticed someone energetically pulling at the hide and trying to remove it from a guard. On reaching the ground he found the party to be a tourist who remarked in great surprise that the hide was nailed down. He evidently had designs on a perfectly good cow hide.

Lumber Company Makes Improvements: The Arizona Lumber & Timber Company of Flagstaff have recently installed a number of important improvements in their plant. The plant now has a double band sawing equipment, a vertical and horizontal resaw, an overhead trimmer, and several edgers. Two hogs grind the refuse for the new boilers. A timber framing department has also been installed for the benefit of the southwestern miners. It is planned shortly to install a Ross lumber carrier system for the yard, thus doing away with the mule trucks. As improved the mill has a capacity for turning out 150,000 feet of lumber in a 10-hour shift, also 40,000 lath and three carloads of mine timbers.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Fire Pump Test: You have doubtless all of you read descriptions of these professional tests of the new lightweight gasolene pumps that are being furnished by the several companies for forest fire use. They tell about how many gallons a minute were thrown and how high the nozzle was up the hill, and how many hundred feet of hose were strung out, etc. At the same time, I think that most of us have a hunch that when a Forest Ranger took hold of the pump the thing would fail to operate as well as it does in the hands of the demonstrator.

Under the circumstances the following test may be of interest: At Cascade the Payette Forest, which has a Pacific Marine pump, started out to see what it would do, knowing nothing more about it than was given in the brief instructions on the tag attached. The pump was set up according to the directions down the river, and the fly-wheel was given a turn; nothing happened. It was flipped again; nothing happened. It was turned a third time and the engine gave a couple of coughs. At the fourth whirl, it took hold and started roaring in fine shape and presently a good stream of water was being thrown. The pump was set up and got to going by an inexperienced crew, none of whom had ever used one before, in about five minutes.

------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Better Roads: A change in the State highway law enacted by the last Legislature and approved by the Governor, which became effective July 24, 1925, provides that the California State Highway Commission shall maintain all traversable roads which are now or may be hereafter included in the State Highway System. The act is of considerable importance to forest users, inasmuch as it will probably result in a gradual betterment of mountain laterals of the State system, and provide fairly good traffic conditions pending the time when reconstruction can be undertaken.

---------------

Famous Alibis: Every Ranger or Supervisor receives more or less plausible "alibi" letters from special use permittees who are "called down" for unsanitary conditions on the area held under permit. The following came from a woman permittee and refers to her husband:

"He had no idea of neatness. When I was away working for money to put into the place, he let the cow and calf go on the porch, and had a hen that laid regularly on the couch in the house."

---------------

Forest Products Laboratory Tackles Kiln Brown Stain in District 5: In the California pine region stain is the worst foe the industry has to meet in seasoning degrade losses. In the kiln both western yellow and sugar pines are attacked by brown stain, while sugar pine is affected by this stain even when air seasoned. A few kiln operators have made some progress in reducing brown stain, but it is yet a most serious problem throughout our pine industry. We do not even know what causes it, although it seems certain that it is chemical in nature rather than a fungous stain like the air seasoning blue stain.

The Forest Products Laboratory has now become able to take on a thorough study of this problem, and cooperation has been secured by our Office of Products from a number of firms to meet the cost of constructing an experimental kiln at one of the plants. Mr. J. S. Mathewson, Assistant Chief of the Section of Timber Physics at the Laboratory, arrived at San Francisco July 1 to take up the study. He is visiting a number of the mills with Mr. Hill of the D. O. while the experimental kiln is being built, to find just what progress has been made in this region, and will then spend a couple of months in direct work on the problem.-C.L.H.

Cooperative Improvement of Camp Grounds: Another evidence of the fine cooperation of the Automobile Club of Southern California is its approval of the entire camp ground improvement program put up to it this spring. The Club has appropriated a total of $4,450 to six Forests, viz: Angeles, $1,500; Cleveland, $750; Inyo, $300; San Bernardino, $700; Santa Barbara, $750; Sequoia, $200.

This organization has taken a substantial interest in our camp ground development program in the past and this is another evidence of the fact that we can count upon them for continued financial support.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Hosts to Governor Pinchot: Governor Gifford Pinchot and Mrs. Pinchot, of Pennsylvania, spent July 4 in Portland. Mr. Pinchot delivered the principal address before the National Convention of Christian Endeavor which was held in Portland from July 4 to 8.

Some 15 old-time members of the Service who had served under G.P. when he was Forester tendered him a luncheon on July 4, at the University Club. Those present were: Governor Pinchot, his private secretary, Mr. [illegible], Mr. J. N. Teal (whose guests the Pinchots were while in Portland), Mr. Geo. M. Cornwall, and Forest Officers.

Governor Pinchot spoke informally, but with much feeling of his great delight at having this opportunity to meet some of the men who had served with him in the early days. He contrasted the changes which had taken place in public sentiment in this region as regards forestry and the Service, and how pleased he was to see it. He took occasion to give full credit for the success of starting the Service on its way to such men as Overton W. Price and F. E. Olmsted, both now gone to their reward. Altogether, it was a very delightful reunion.

Objectives Being Attained: The North Pacific District has had for five years as one of its objectives the "selling" the National Forests to railroads and to tourist and advertising agencies of the Northwest; to "sell" them so that these agencies would of their own initiative advertise the National Forests as scenic, recreational, and industrial assets of this region. The District has worked at this consistently for the past five years, whenever an opportunity could be made. Evidences are becoming more and more frequent which make one believe that it is getting over. Most of the big railroad systems of the Northwest have from time to time featured the National Forests of this region in their literature. The latest evidence is a series of full-page ads being run this summer in the leading daily newspapers of Oregon, Washington, California, and British Columbia by "Puget Sound and British Columbia, Associated," the clearing house for the tourist agencies in Seattle, Tacoma, and Bellingham, Wash., and Victoria and Vancouver, B. C.

"The Evergreen Playground" is the title of these ads and they list the attractions of this region, including the Mount Baker National Forest and the Olympic National Forest. It takes time, and most of all continuous effort, to sell the public an idea.

-------#-------

DISTRICT 7 - EASTERN DISTRICT

Jobs Open in State Forestry: One of the southern Appalachian States within District 7 is seeking a thoroughly qualified man for appointment as State Forester. Another of our States is seeking two men, one to be appointed as State Forester, the other as Assistant State Forester. Both of these States have requested the District Forester at Washington to recommend men for these positions.

The salaries of these positions will approximate $3,000 for the Assistant State Forester, and $3,300, or perhaps $3,600, for the State Foresters. Qualified men interested in these opportunities are invited to immediately file a statement with the District Forester, District 7, Washington.

-------#-------

HUMOR IN OFFICIAL REPORTS

"The livestock losses on the range this summer have been very gratifying," reads a report from D-6, which discusses poisonous plant losses.

"Grazing Assistant Bunchgrass has gone to the Salmon Forest in order to check the growth of vegetation on that Forest."

"Poisonous plants this summer have been responsible for severe losses among stockmen," says a D-2 report. Locoed?

Regulation G-27 of the old Manual was headed "Disposition of Carcasses." An inquiring and waggish Supervisor once wrote and asked the Forester just how this matter should be handled. "Will the reports indicate the disposition of a carcass as kind, friendly, irascible, or cranky?", he inquired.

Another suggested the advisability of adding a paragraph to the game section of the Manual immediately after the regulation referring to the disposition of carcasses to be headed "Management of Grizzly Bears."

Referring to a permittee who was always late with his grazing fee, a Forest Supervisor stated: "This man is so close with his coin that he can hear a paper dollar drop on a feather bed."

Describing a game preserve area in northern Idaho, the Supervisor states: "Three semi-civilized Forest rangers and a few strands of barb wire constitute the only evidences of the contamination of civilization."

-------#-------

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

Vol. IX. No. 34. Washington, D. C. August 24, 1925.

1925 TIMBER BUSINESS - HOW MUCH AND WHERE

By Harry Irion, Washington.

The amount of timber cut under sales during the fiscal year 1925 was 9.3 per cent less than for the preceding year, but receipts from timber were only 3 per cent less. Taking into account all of the adverse factors involved, the 1925 performance in timber business is not at all disappointing. The fourth quarter (i.e. April, May and June, 1925) beats all previous quarterly records for timber receipts, the total being $937,163.41. This is about $50,000 more than the highest previous quarter.

The major part of the loss occurred in District 5, where receipts and cut dropped more than 30 per cent. This was due to several causes. First of all, it so happened that many purchasers, who are operating in both private and Government timber, cut an unusually large amount of National Forest timber during the fiscal year 1924 and then switched over to private stumpage during the following year. Business conditions throughout most of last year and the fire situation during the summer of 1924 were also responsible for a curtailment in the cut under many National Forest sales in California. If District 5 had equalled its figures of last year the total timber receipts for 1925 would have exceeded those for 1924 by $192,683.42 and the cut would have shown a gain of 14,106 M feet. As it is we are in the red $91,456.57 under timber receipts (including settlement) and 106,146 M feet under timber cut.

One of the outstanding and most gratifying features of last year's business is the exceptionally fine showing made by District 2, which increased its timber receipts and cut 32 per cent over the previous year. District 1 gained 19.6 per cent in timber receipts but had a decrease of 18.2 per cent in cut. This variance is due to the cutting of a considerable amount of high-priced pine stumpage.

Sixteen Forests rolled up timber receipts of more than $50,000 each; nine of them exceeding the $100,000 mark and one, the Stanislaus, totaling $264,610. In 1924 there were seventeen Forests with timber receipts in excess of $50,000, two of which were well over the $200,000 mark. The Shasta and Kootenai were the only Forests in the elect group last year that did not quite get over the line in 1925. The Shasta, however, would belong in this year's group if we added to its sales receipts and cut the value and amount of timber cut under land exchange agreements. This year's newcomer is the Deschutes Forest. These sixteen Forests were responsible for about 65 per cent of the total timber receipts and 59 per cent of the total amount cut under sales.

A more detailed summary of the 1925 sales business will be found in the following tables.

Table 1.- Amount and contract value of timber cut under commercial and cost sales, and receipts from timber sales and timber settlement during fiscal year ending June 30,1925.

District	Amount cut M feet B.M.	Contract value	Receipts from timber sales and settlement
1	125,205	$ 470,564	$ 511,847.79
2	147,985	423,363	424,474.33
3	70,871	144,647	138,109.28
4	64,837	127,063	146,669.10
5	207,010	619,946	637,354.88
6	322,195	731,862	755,443.48
7	43,947	198,741	198,444.39
8	55,442	97,352	106,341.55
	1,037,492	$2,813,558	$2,913,584.30
Decrease over 1924	106,146	281,063	91,456.57

Table 2.- Per cent of increase or decrease in timber receipts and cut during fiscal year 1925 as compared with fiscal year 1924.

District	Per cent of gain or loss in timber receipts	Per cent of gain or loss in timber cut
1	+ 19.6	- 18.2
2	+ 32.2	+ 32.8
3	- 1.1	+ 8.1
4	+ 20.3	+ 14.6
5	- 30.8	- 36.7
6	- 1.5	- 4.0
7	- 2.6	- 3.5
8	- .7	+ 13.8
All Districts	- 3.0	- 9.3

Table 3. Forests with timber receipts in excess of $50,000 during fiscal year 1925.

Dist.	Forest	Receipts from timber sales and timber settlement	Timber cut under sales M feet	Contract value of timber cut
5	Stanislaus	$ 264,610.41	80,531	$ 244,177.15
1	Kaniksu	180,444.33	36,094	196,981.14
6	Crater	177,556.80	47,830	181,556.57
1	Coeur d'Alene	161,359.34	16,994	107,209.93
6	Whitman	141,861.16	48,125	145,204.75
5	Lassen	130,787.14	38,682	138,652.98
5	Plumas	128,282.92	45,356	127,230.63
2	Medicine Bow	104,205.55	42,501	124,562.91
8	Tongass	101,004.84	52,277	91,948.48
6	Snoqualmie	92,007.81	38,358	73,940.74
2	Harney	88,857.47	21,150	85,401.74
7	Arkansas	77,389.59	11,259	73,038.67
6	Olympic	69,097.75	43,861	61,935.46
6	Deschutes	61,310.72	12,908	41,265.37
3	Coconino	56,876.24	31,436	68,519.75
6	Cascade	54,554.31	48,247	68,744.97
	Total	$1,890,206.38	615,509	$1,830,371.24

-------#-------

FIRE PREVENTION THROUGH SUPPRESSION

By Crosby A. Hoar, D-2

There seems to be an idea abroad that the Forest Service and the States have been overlooking the importance of preventing fires because they were absorbed in devising the technique of fire control. It would be more accurate to say that fire suppression has advanced to a point which makes it possible to develop fire prevention.

Every fire protection system or organization is born in response to a recognized public need, which is to stop losses of life and property caused by fires. At first the public does not recognize that all fires are dangerous, or that all cause some loss. It is indifferent to fires which do not threaten losses that are imminent and easily apparent. Consequently its fire protection force is established for the purpose, as the public views it, of protecting them from fires which are clearly dangerous. There is little or no thought of fire prevention, in the sense of preventing all fires.

For years the organization struggles to fulfill its mission, winning support and approval in proportion as it checks disastrous fires, and gradually gaining strength and knowledge. Ultimately it comes to see that it would be more profitable to prevent fires than to rely entirely upon fighting them. In enthusiasm over this idea, the matter of how it was evolved is easily forgotten.

Fire prevention always develops after fire suppression has been tried. The public will support efforts to stop fires that are burning long before it will listen to propaganda urging fire prevention.

Second, fire suppression is the chief agency which "sells" fire prevention. The city fire company tearing down the street with shining equipment, clanging gong, and desperate earnestness creates the prestige which gains a respectful attitude toward ordinances against fire traps. The warnings of the fire chief would fall on deaf ears if he were only a thoughtful reformer instead of a magnetic leader.

Whatever basis the Forest Service has for a campaign of fire prevention has been gained by devotion to the task of fire suppression - the thing which the public can appreciate. The Forest Service has won the right to dispense warnings and propaganda, to speak feelingly about preventing fires, and to make restrictions for that purpose. It will lose the right to do those things if it relaxes in any degree its own effort for greater preparedness, better training, and more efficient work on the fire line.

PURCHASES UNDER BID

By S. B. Helms, Michigan

Without insinuating any monkey-business, yet insisting that the Service is in the process of evolving progressively, how about making an effort to amend Paragraph 67 of the Fiscal Regulations of the Department?

There is at least one good reason why the regulation might be changed so as to enable us to make purchases of $100 value without first securing three or more competitive bids. That reason is that the half century note isn't what it was at the time the regulation was set up.

Nowadays $50 worth of building material of any sort is a mere handful, likewise subsistence supplies and other commodities purchased by the Service. We may now spend $1,500 in building a shack for a Ranger, also we can make timber sales up to $500, and salaries have been inflated, mainly for the reason that the dollar can't hold its head up but about half as high as formerly. It stands to reason that if this change on the part of the dollar has brought about revisions in some instances, Paragraph 67 should not be slighted.

More argument could be written in favor of the change but it would all be "old stuff" to every Forest -- the kind that makes white hairs. The policy of foresight and buying in large quantities is good, yet it does not seem to overcome all of the trouble.

* * *

FOREST PRODUCTS LABORATORY

Course Student Sends Profitable Night Wire: What was probably the quickest dividend ever returned on the tuition and costs of an industrial representative at the Forest Products Laboratory's instructional courses came to light in a recent course in the gluing of wood. At the end of the third day of instruction a representative of a company making an important automobile part of wood sent his company a long night letter instructing them to alter certain phases of the gluing operations then in use. The company man stated that the instruction in his wire made as a result of information acquired in the gluing class would effect a saving to the company of $300 per day. This sum, which would be saved daily, would easily cover the entire tuition, travel, and living costs for the representative while attending the glue course.

* * *

Degrade as a Result of Turpentining Greater in Second-Growth than in Virgin-Growth Trees: That turpentining does not degrade lumber except for a slight accumulation of resin and that most of the ill effects of turpentining operations are removed in slabbing the logs at the mill is the opinion held by many. While this holds true for virgin pine trees, with second-growth pine the conditions are very different. In old-growth trees the sapwood is usually realtively thin, while in second-growth it is comparatively thick. Logs from second-growth trees which go to the mill after the tree has been turpentined may consist wholly of sapwood or have only a core of heartwood about 3 or 4 inches in diameter.

In these second-growth trees turpentining results in the partial drying out of the sapwood underneath the face, extending as far as the heartwood. This partial drying out of that portion of the sapwood results in an attack by blue stain which greatly degrades the lumber. It is also probable that the conditions are favorable to the growth of wood-destroying fungi. The blue stain penetrates to the heartwood the first season after the face is worked. Hence even if the trees are cut immediately after the usual three seasons of turpentining the stained area will occupy from one-third to one-half of the cross sectional area of the trees as far up as the face extends. Owing to the irregular shape of the damaged area in the cross section, over half of the lumber sawed from such logs will show more or less injury. In some cases, producers consider it a more economical proposition to discard all of the turpentined portion of the tree.

* * *

"Increment Cores in the Office". A hint to stations patiently awaiting core-cutting machines: At the Southern we use a knife or a small plane, a steel rule subdivided to .025 inch, and a hardwood vise 4x5x8 inches made to order for $5.50 by a local woodworking firm. The core to be cut smooth lies in a V-shaped groove in the edge of the movable block of the vise, and a turn on a couple of thumbscrews forces block and core firmly against the back-piece. Soaking the cores in water for forty-five minutes before cutting and measuring corrects the shrinkage which takes place as the cores dry, and which amounts to from 2.7 to 3.6 of their dry length. Soaking for as long as two hours makes the cores longer than they were when taken from the tree.-P.C.W.

Forest Experiment Station Programs - Russia: Before the world war the bulk of Russian forests belonged to the State, and experimental work on them was carried out only by the Forest Service Bureau of the Russian Government. These forests were divided into administrative divisions, each headed by a forester. The size of these divisions depended largely on the economic value of the forest products, and generally diminished from north to south. Some of these forest districts were specially selected for experimental forest work. In general, to each of these forest experimental districts there were assigned problems characteristic of the region.

Such forest experimental divisions were established in the north of European Russia - in Archangel and Petrograd provinces; in Central European Russia - in Orel and Valdimir provinces; in the Volga region - in Samara and Kazan provinces; in South Russia - in Yekaterinoslav, Voronezh, Kiev, and Tambov provinces; in the mountainous region - Taurida Province (Crimea peninsula).

The foresters were, as a rule, graduates of forestry institutes, and their activities were supervised by the Central Forest Administration in Petrograd.

One of the notable features of the State forest service was the organization of the major part of field and office workers into corps of foresters. Thus, the personnel of the Central Administration, in general, worked in close harmony with foresters in the field and professors of the forestry institutes, which also were under the Forest Service Bureau. The cooperation of these three agencies was well developed, because the personnel was easily shifted from the central office to the field or forest institutes, and vice versa. This system was largely responsible for the productive results of the work of the experimental staff, based on scientific research, closely following the demands of practical foresters as suggested by local problems.

It is assumed that this work has been continued since that time, although no specific data on this subject have come to our attention.-E.N.M.

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Impounding Regulations: The Harney and Black Hills Forests have been active under the new impounding regulations. The following report for the Harney will be of interest:

"On July 11 we sold 5 horses in the Limestone but as these were renegades and did not attract any buyers they brought only $1.00 per head. However, the only cost in connection with them was the advertising, so that we were not out any money.

"On August 3 at Loring and at the Carter Ranch on the Pringle District we sold a total of 31 head. There were 45 head advertised and impounded but someone opened the gate the day before the sale and 14 head of the wild ones escaped and it was not possible to gather them in time for the sale on August 3. The sale was very satisfactory and netted more than the expense of the work and advertising. The highest price received was $10 and the lowest $1. At the sale at the Carter Ranch there were more buyers present and we had some competition. The average price there was $3.66. The horses sold were mostly unbranded two or three year olds.

"We expect to continue these sales. We have arranged with a settler on the Elk Mountain District to hold strays for us in connection with the gathering of the Bailey horses, and we have secured a pasture on the Bear Mountain District where we are gathering strays as opportunity affords and during the summer we expect to dispose of a considerable number.

"I believe this impounding regulation is highly successful. It is already establishing a better respect for our grazing regulations."

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Tractor Logging on Coconino: Experiments are being made by the Flagstaff Lumber Company on their Government timber operation south of Mormon Lake on the Coconino Forest. Two "Best 60" tractors are in use. Trees are felled and limbed and cut to 8" top diameter. The tractors hook on and skid the entire sticks intact to the landings, where they are bucked into logs. Sometimes a single tree makes a load and sometimes three or four can be taken, depending on the size. Results thus far indicate that tractor skidding on the Coconino will be successful and that the method is likely to supplant older methods. On a maximum haul of one-half mile, the two machines with a crew of seven men have averaged 60 M feet per day from stump to landing. Damage to reproduction is small, no swamping is necessary for the machines and main roads are held to a minimum.

Guadalupe Caves Are Wonder Works of Nature: There is no particular attention being paid to the Guadalupe Caves in the Lincoln National Forest although explorers who are connoisseurs of caves class one of them, at least, as the most wonderful they have ever seen and exceeding in grandeur and beauty any of the Carlsbad Caverns. The Guadalupe Caves are three in number: The Hilton, the Cottonwood, and the Black Cave. In the Black Cave, apparently because of some mineral in the water, all of the stalactites and stalagmites are black. Bones of what are believed to be prehistoric men have been found in the Guadalupe Caves, as well as those of a large animal which has been identified by the Smithsonian Institution as a cave bear. Cave bears are said to have existed about 25,000 years ago but are now extinct. The Guadalupe Caves are in the same general region as the Carlsbad Caverns but farther back in the Guadalupe Mountains. They are about 50 miles from the town of Carlsbad and best reached from that point.

---#---

DISTRICT 5 - CALIFORNIA DISTRICT

Cooperative Lookout Tower: On Grass Valley Ridge north of Strawberry Flat, summer home settlement and public camp ground on the San Bernardino Forest, a number of enthusiastic Forest Service cooperators have just completed the highest lookout tower in District 5. This tower is built of lumber and is constructed along the same lines as a typical oil derrick. It is eighty feet high, is anchored to railroad iron that is set in concrete ten feet deep in the ground, and is, undoubtedly, the largest structure of this kind that the Forest Service has ever put up. The ladders leading to the lookout house top of the tower are on the inside of the structure and there is a platform every fifteen feet. The lookout and his family live in the base of the tower where two stories have been fitted up for living quarters.

This tower was practically all built through cooperation, less than $100 of the total cost having been paid by the Forest Service. Local sawmill men sawed out the lumber and helped construct the tower, and a number of permittees cooperated in the construction work. Cable for guy wires was furnished by other cooperators, and the structure was put up in record time. It fills a long felt want on the part of the Forest and covers practically all of the west end of the San Bernardino Forest except the brush slopes between the Forest boundary and the Rim of the World Drive.--L.A.B.

An Argument For Fall Snag Disposal: The Rice Cabin fire of June 21 on the Eldorado Forest was located at 11.30 p.m. Herbert and Robinson arrived at the fire at 1.50 p.m. Guard Bloom and I arrived at 2.55 p.m., and by 4.00 p.m. had a line around it and the fire well under control. By 6.00 p.m. all burning pieces near the control line had been covered and the fire was safe to leave with the one exception of a 52-inch white fir snag near the east boundary. We had a falling saw with us but could not get near the butt of the snag to use it. We watched it until it went out, and with Herbert and Robinson drove to Ice House to see if any more lightning fires had been reported.

We remained at Ice House the balance of the night. At 6.00 a.m. Bloom called in from Van Vlecks Cow Camp and said the snag was still burning and would have to be felled or watched for several days. Taking one of the road crew from Ice House, I returned to the fire, arriving at 9.50 a.m. The snag was still burning, and burning pieces and limbs were falling at frequent intervals. We started to saw it down and by alternately sawing and dodging limbs and waiting for particularly dangerous pieces to burn off, we succeeded in getting it down by 2.00 p.m. One hour more was required to make it safe to leave.

Summing it up: It required but 6½ man-hours to control and 8 hours to patrol the fire, which only covered five acres. Extra partol time made necessary by the snag amounted to 41½ hours and $5.80 expense to the Forest Service, and the burning of a perfectly good hat and shirt for myself. This number of man-hours and the extra expense involved would dispose of a great many snags if used at the proper time - which is not when a snag is afire from top to bottom.-M.D.M.

-------+-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

The Flying Squadrons: Plans for the new "flying squadrons" are taking shape, and by the time that this issue reaches the field the plan will doubtless be in operation.

Four squadrons will be employed, located respectively on the Chelan, Crater, Mount Hood and Rainier. Each squadron will consist of a Fire Chief, three Fire Foremen, a Camp Supt., and a Cook. The Fire Chief will be a regular Forest officer; the remainder will be temporary men selected for their experience, fitness and ability in the various positions. They will be employed on other work at their base camps until such time as their services are needed on large fires where sufficient trained overhead is not available and where crews of forty or more men will be required for several days.

The Fire Chiefs, base camps, and territory of the various squadrons are as follows:

Fire Chief, Asher Ireland, Lake Chelan, for the Chelan, Colville, and Wenatchee; Fire Chief W. L. Jones, Deadwood Soda Springs Road, for the southern Oregon Forests; Fire Chief J. C. Hon, Mt. Hood Loop Road, for the Columbia, Mount Hood, Santiam, and possibly other West-side Forests; Fire Chief J. L. Hagen, Cispus Bridge, for the West-side Washington Forests.

This is a new idea in this District's fire organization, and it is felt that it will fill a real need during bad fire emergencies. The squadrons will be equipped for a quick getaway and rapid transport.

Forest School Students Employed: Approximately 60 forest school students (undergraduates) are being employed in temporary positions in the North Pacific District this summer. This is in line with the policy to provide employment for these students, so far as possible, so as to give the future foresters practical field experience and an understanding of Forest Service work and conditions. It also enables the Service to size up the different men and to judge as to their fitness for permanent appointment later. The list of forest schools represented on the program this summer includes: Oregon Agricultural College, University of Washington, Washington State College, University of Minnesota, University of Michigan, Cornell, and New York State College of Forestry (Syracuse).

-------#-------

DISTRICT 7 - EASTERN DISTRICT

Bon Voyage to Verne Rhoades: Supervisor Verne Rhoades, of the Pisgah National Forest, leaves us on September 18 to enter other fields of effort. He came to the Service in August, 1907, as a guard on the Alamo Forest. From March, 1911, to date he has taken a vital and constructive part in the up-building and management of the Eastern National Forests.

His new occupation takes him into the development of Asheville real estate, in connection with the subdivision and development of the very choice Malvern Hill section, near the Asheville School for Boys.

As the Supervisor of the Pisgah National Forest, he has written much into the record of the Service which is inspirational, practical, and concrete. He will leave with us a lasting imprint of a personality which expresses itself as an index of what a Forest officer may be - of what character in a man is.

That we wish him all success in his work, continued happiness, and good health is a very incomplete expression of our thoughts.

-------#-------

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX. No. 35. Washington, D. C. August 31, 1925.

A STATEMENT OF INSPECTION PRINCIPLES

(Extract from a letter written to Forest and District Officers by C. M. Granger, D-6)

The two primary purposes of inspection are:

1. To secure personal contact, a joint study of conditions and problems on the ground, and an opportunity for instruction by specialists.

2. To determine the quality and quantity of work, and the rate of progress toward definite objectives in handling resources.

The primary purpose of District office inspection is to inspect the Supervisor. This ought never to be forgotten, but it frequently is. There is a constant natural tendency for branch chiefs and specialists to establish a direct line of contact or control by inspection or otherwise with the men in charge of ranger districts, sales, and other units, thus short-cutting the Supervisor. Whether because of this or for some other reasons, there is too often a distinct tendency for the Supervisor to hold back and give the impression that the inspector is doing a job in which the Supervisor has only a minor share and interest.

The primary objects of inspection can not be fully attained unless the Supervisor is with the inspector. The Supervisor, except in real emergencies, should accompany the inspector. Furthermore, the Supervisor should properly take the initiative, for his rating as a Supervisor depends to an appreciable extent on the kind of inspection he makes. We must agree, surely, that constantly recurring instances, discovered by inspectors, of inadequately trained fire forces, poor sale administration, poor range management, low field time, unprogressive travel, lack of used plans, and so on, are due in large measure to lack of adequate inspection by Supervisors. Why shouldn't Supervisors see and act on these things ahead of a District office inspector?

It is desired that District office inspectors observe particularly the following points:

(1) Get to the bottom of things. Look for the good as well as the bad. Try to find the underlying reasons for existing conditions. Keep in mind the Supervisor's responsibility for other lines of work besides your own.

(2) Give all the help, information, and teaching you can from your specialized knowledge and from your broader experience and observation.

(3) Make every effort to avoid the appearance of giving instructions to others which should be given to the Supervisor; also avoid any appearance of short-cutting the Supervisor in any way.

(4) Keep clearly in mind in making all inspections, regardless of the man who is immediately responsible for the work under inspection, that your job is not to inspect the subordinate but to measure the effectiveness of the Supervisor's administration.

(5) Remember that disciplinary action because of unacceptable conditions should not be direct from the District office to the subordinate, but rather that the responsibility for correction or disciplinary action must be placed squarely on the Supervisor.

(6) Prepare your inspection reports in line with the foregoing policy. Point out the underlying reasons, as you see them, why the administration is good or bad. Recognize both good and bad work. Discuss fully your criticisms on the ground before putting them into the report. Prepare and forward your inspection reports just as soon after the inspection as is possible.

-------#-------

A SIDELIGHT ON "BUREAUCRACY"

Mimeographed advance copies of the PR Section of the National Forest Manual were sent some time ago to all State Foresters. There has been more or less in the papers lately about Forest Service bureaucratic treatment of the public. It is therefore heartening to have the State Forester of California write:

"I am very glad to have a copy of the Public Relations Section of the National Forest Manual. It carries out the spirit that was instilled into the early foresters by Gifford Pinchot. I have heard a great deal lately about the autocratic attitude of members of some of the other departments at Washington and those who criticized this attitude took occasion to remark that they had rarely seen a Forest officer who was unduly officious. As long as the U. S. Forest officers maintain a sympathetic attitude towards the people with whom they come in contact and become a part of the communities in which they live there is little danger that there will ever be a strong public demand in California for the transfer of the National Forests to some other department."

LOOKING BACKWARD, OR ANOTHER POSTMORTEM

By L. A. Barrett, D-5

On my recent trip over the San Bernardino Forest I ran across three striking illustrations of the age-old fact that our "hindsight is always more reliable than our foresight." All three cases have to do with the enormous increase in land values in a mountain area where land brings a higher price than anywhere in the West.

No. 1. In 1909 Eugene Bruce examined the cut-over lands of the Brookings Lumber Company with a view to working up an exchange, giving stumpage for land. Since there was no legislation authorizing such an exchange, no one in the Forest Service got very much excited about the future possibility of this land, and the case slumbered until 1919, when Mr. Sherman suggested that another effort be made to put over the deal. This was too late, however, and the owners then showed little interest. Now, back in 1909 this land could have been acquired for $4 per acre or less; by 1919 the county was assessing it at $10 per acre, with the value going up. Early this year these people sold the 4,000 acres of cut-over land for one million dollars, an average price of $250 per acre for cut-over land.

No. 2. In the early days of the Forest Homestead Act, before land classification was undertaken or there was any consistent forest homestead policy, about every fourth person in Southern California had the "homestead" bug and all wanted mountain land. Since in those days the benefit of the doubt always went to the homestead applicant (particularly if he were a voluminous letter writer, or could exert some political pressure) either the District Ranger, Supervisor, District Forester, or Forester usually could be counted upon to give him at least part of the land he wanted. As a consequence the American public has permanently lost title to some 5,000 acres of wonderful recreation land. Not 5 per cent of this was ever cultivated. Not 1 per cent of it is cultivated to-day. But although it was worth about four bits per acre for agriculture, it sells at from $250 to $2,500 per acre for recreation. So here is another million and more gone. And the most exasperating part of it all is that some of these "real estate" homesteaders are still bragging about how they "put one over" on the Forest Service, and they sure did.

No. 3. But every cloud has a silver lining, and not all of these mistakes in judgment were made by the Forest Service. Private land owners could not see beyond the end of their noses either. In the early days of this Forest the good old lieu land law was in full swing, and owners of sagebrush forest land in New Mexico, Arizona, and California were busily trading off this supposedly worthless land for timber stands in the Northwest. Thousands of acres of railroad lands on this Forest were so exchanged, and now we find that a lot of this supposedly worthless land that Uncle Sam got back is to-day worth far more than the timber land in the Northwest for which it was exchanged. One fine illustration of this is a section near Bluff Lake. This section could to-day be sold for a quarter of a million, and the irony of it all is that the former owner, who sold the "scrip" for $5 per acre, now pays the Forest Service $15 per year rental for a ¼ acre summer home site on this section he once owned.

--------#--------

A WORD FOR EARLY G-MANAGEMENT PLANS

By Paul H. Roberts, Sitgreaves

Grazing Management Plans have changed greatly in the past ten or twelve years and the management plans of days gone by would not suffice for present-day conditions. The old management plans, however, had a distinct value and have been of great aid in improving the handling of the ranges which they covered.

The estimates of carrying capacity gave a good and uniform comparison between the carrying capacities of different ranges, which served as guides in adjustments in stocking and as a basis for reductions in numbers of stock. The need for these can be easily demonstrated to-day by a direct comparison between Forest and outside range.

These old plans also provided a basis for division of the range between different classes of stock, establishment of needed stock driveways, better distribution, water development, etc.

While these old plans were not as intensive as present-day plans, they did serve a distinct and useful purpose, and the basic data which they contained have been revised and used up to the present time.

--------#--------

FOREST PRODUCTS LABORATORY

Conference with Forest Schools to be Held at the Laboratory: The second Forest School Conference will be held at the Laboratory during the week of August 31 to September 5. At the first meeting, held here last January, plans were made to hold annual conferences to discuss and exchange ideas concerning utilization problems.

The coming meeting will be devoted mainly to seasoning problems and will take up developments both in kiln drying and air seasoning.

The following men are expected: J. C. DeCamp, Michigan Agricultural College; W. H. Horning, Penn State Forest School; H. S. Newins, Pennsylvania State College; Perkins Coville, Iowa State College; Nelson C. Brown, New York State College of Forestry; J. P. Wentling, University of Minnesota; George A. Garratt, Yale Forest School; and W. Kynoch of the Forest Products Laboratories of Canada. In addition to these, representatives will be present from the University of Michigan, the University of New Hampshire, and probably from the Colorado Agricultural College.

It is believed that these conferences will do much to correlate the work at the Laboratory with research on forest utilization being carried on at the various schools. The Laboratory by reason of its familiarity with the requirements in the utilization field can aid the schools in formulating proper courses of study for men preparing for products work and may be able to suggest research problems which could be undertaken by graduate students. Also, the various schools can without a doubt do much to help the Forest Service in getting research findings into commercial practice in their particular regions.

-------#-------

TO A LITTLE AILANTHUS TREE

You small ailanthus tree,
You gamin of the streets,
   In [illegible] ways,
   Through scorching days,
From a six-inch square of earth
You wave green plumes in glee.

You child of cement streets
Of clamor, smoke and grime,
   All plumed in green,
   A forest queen,
To city folk you bring
The thought of far retreats.

They call you "Tree of Heaven,"
You gamin of the streets,
   Who toss green smiles
   Down arid miles,
A balm for dusty hearts,
The balm of God's own leaven.

Florence Finch Kelly
in the New York Times.

-------#-------

The Fire Season to August 15: The news that the world usually wants at this time of the year from District One is something about the "fire situation."

For the first time during the last month, it is possible to send out some good news. Rains, varying from showers to an inch, have occurred over all of the western Forests in the past two or three days, and, the Weather Man finally having turned fire fighter, the situation is very radically changed for the better. The report for the period ended August 10 shows a total of 1297 fires in the District to date. Out of these, 1081 were lightning caused. Ninety-six were Class C and the total of National Forest land burned was approximately 43,000 acres. Two hundred and ninety-two fires were reported during the last ten-day period and 477 during the previous ten-day period.

The Kaniksu Forest started in with some 70 fires from one storm on July 11. This Forest had the most difficult time of any in the District. Fires spread rapidly, driven by winds that if they did not come every day came frequently enough to keep the fires spreading ahead of the crews and the spot fires over the lines before back-firing could be accomplished. A fire on the Kootenai, which started in inaccessible country and spread to 800 acres during the first afternoon, finally burned over a total of 18,000 acres. This is the biggest fire in the District since 1919. Most of the field going men of the District office and about 25 men from eastern Montana Forests, plus all of the organization of the western Forests, have been on "Fire Duty" for the past month.

Smoke became so heavy during the last two weeks that lookouts were ineffective and air patrol efficiency was very seriously decreased. At this writing we are optomistic enough to predict that the backbone of the fire season is broken, and that the chief events in another serious but usual fire season in District One have taken place.- F.M.

When the Forest Service Was an Infant: On the twentieth of July, in the column in the MISSOULIAN headed "20 Years Ago," appear the names of men who had taken the ranger examination on July 19, 1905. This was the first examination held to determine the qualifications of applicants for the position of Forest Ranger.-

Among the names listed were: W. J. Derrick, W. W. White, and C. C. Hall.

Mr. Derrick is now Supervisor of the Madison, and Mr. White Administrative Assistant in the Branch of Forest Management. Mr. Hall was Supervisor of the Deerlodge for several years and is now Supervisor of the Santiam, District 6.

We wonder what has become of the 15 others who took the examination at that time.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Editor Asks A Question: "Will the fire hazard increase?" is the heading of an editorial in a recent Williams, Arizona, News. The editorial begins with the statement, "Geo. Kimball, local Forest Supervisor, is wondering whether the opening of the road to the J. D. Dam and other points will reduce or increase the fire hazard." The editor then discusses the value of forest roads for protective purposes and the possible greater fire danger that may come through increased use of the forests which good roads encourage. His analysis is an excellent setting forth of principles pro and con. "Will careless autoists more than offset the benefit of the better road?" he challenges and then adds, "We believe not. The Public is realizing more and more fully how much we owe to our forests and are interested in preserving them." His final sentence warns forest users against lack of care with cigars, cigarettes, and camp fires.

Scott To Be Supervisor of Gila: The Forester has authorized announcement of the transfer of J. A. Scott of the District Office of Grazing to the Supervisorship of the Gila Forest effective on or about January 1, vice Fred Winn who transfers from the Gila to the Coronado. Mr. Scott will be succedded in the District office by Inspector of Grazing D. A. Shoemaker of the Branch of Grazing in the Washington Office.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Rearing Fawns: A report just received from the Kaibab states that approximately 240 fawns are now being raised on cow's milk on the Kaibab. The fawn season is now over but it is still possible to capture the young animals, which are much more sturdy than the ones caught soon after birth. It appears from this year's experience that the main fawn season is from June 20 to July 10. The fawns are captured very carefully and are transported immediately to the camps where they are placed in a small pen for a few days until they get over their wildness. The men who are catching the fawns report unusually small numbers of twins this year, a condition probably caused by the poor condition of the does at the breeding time last fall. The fawns are fed from two-thirds of a pint to a pint of milk in the morning and in the evening. Whether cow's milk is satisfactory for the young deer is something of a question and an attempt is being made to secure a sample of doe's milk for testing. This has been unsuccessful so far. In a few cases castor oil has been given when the fawns appeared off their feed. In one camp the remedy was followed by the death of two fawns. The man in charge was rather surprised at the result, but his boy said, "No wonder they died. Castor oil would kill anything." At one camp the men who are capturing the fawns report having seen quite a number that had been killed by coyotes. Some does have also been killed by these animals.

The Fire Record. The year has been marked by an extraordinary number of lightning fires, concentrated as usual in the western Idaho Forests. Most of them have been put out promptly and have not attained Class C proportions. At the present time it is exceedingly smoky on account of fires in the Northwest, and detection from the lookout points is practically impossible. Hazard has been high up to a few days ago, when a spell of cooler weather and higher humidity brought about an improvement in conditions.. The ten-day fire reports of August 10 show a total of 330 fires in the District up to that time. Of this number, only 48 were man-made. The percentage of man-made fires (14 per cent) is by far the lowest ever recorded in the District, and the absolute number of man-caused fires is likewise decidedly low. The period of lightning fires is drawing to a close, and the hunting season is before us, so undoubtedly this excellent showing will be changed somewhat before the end of the year. Nevertheless, it looks as though a real reduction in man-made fires will be demonstrated this season.

DISTRICT 5 - CALIFORNIA DISTRICT

Santa Barbara Finds Air Patrol Effective: Pilot James from the Griffith Park flying field came to Santa Barbara early in the morning of July 17 with a plane for use on reconnaissance of the Hopper Mountain fire. Together we made a very thorough reconnaissance of the fire, which took us an hour and twenty minutes from the landing field at Santa Barbara.

Before leaving I had heard from Ranger Valentine, who was in charge of the fire, to the effect that the fire was making a run down the Little Sespe and it would be necessary to establish a camp on the mountain at the head of the Sespe. Arrangements were made, before leaving on our flight, to have the pack stock come to Santa Barbara to be taken later to whatever place Valentine ordered them. I found on looking over the fire from the air that it had changed its course since Valentine had seen it and was burning up Hopper Canyon very strongly toward the divide up Reasoner Canyon. Upon landing I found there were men ready to go to the fire from Piru, Fillmore, and Santa Paula, but they were awaiting orders from Valentine. After what I had seen from the air I knew that it would be necessary to change the plan of attack and therefore told the men to proceed to Reasoner Canyon so as not to lose any time. Later Valentine telephoned that it was necessary to change the plan of action and that he wanted the pack stock sent to Reasoner and would try to get the men in there at once. I was able to tell him that the men had already gone and the pack would soon follow.

Gathering this information from the airplane enabled us to get the men on the line considerably sooner than it would have been otherwise possible. Having the men on the line when they were needed made it possible to control the fire before it backed around Reasoner Canyon and made a bad run into the Piru, which would have been an expensive fight. I feel that in this one case the Forest Service was probably saved an expense of at least $10,000.- C.E.J.

Legion Camp On Plumas: Plumas County gets the summer camp of the California department of the American Legion. The site selected is 60 acres of forest land along both banks of Spanish Creek, immediately downstream from the Oakland Municipal Camp. According to State Adjutant Fisk, the Legion plans to have accommodations ready for between 500 and 600 persons by next summer. Its use will not be restricted to Legion members, but will will also be open for all former service men and their families.

Approximately one-third of the proposed tract is in the Plumas Forest and the balance is privately owned.

--------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Effective Cooperation: The following is the form of pledge which was used during 1925 "Stop Forest Fires" campaign in Vancouver, Washington

"1925 FOREST PLEDGE

In recognition of the timbered areas of the Pacific Northwest being our chief asset: also that the forested mountains, hills, and valleys provide wonderful opportunities for 'life in the open,' as well as preserving our water sources, game and fish life, do I most willingly sign and promise to uphold the following FOREST FIRE PREVENTION pledge:

All right-hold up your right hand! 'I faithfully pledge that I will -

'1. Be sure my match is out. Break it in two before I throw it away.

'2. Pinch out my tobacco. Never throw a lighted stub into forest, brush or twigs.

'3. Build a small camp fire in the open in a safe place.

'4. PUT IT OUT - ABSOLUTELY.

'5. Leave a clean camp - a gentleman's camp - not a city dump.

'6. Put out any fire I find or else notify the ranger if it's too big. I recognize the necessity of quick action and lots of it.'

Name____________________________Address____

Secured by scout____

PREVENT FOREST FIRES - IT PAYS

Pledge campaign by Vancouver Chamber of Commerce, through courtesy and cooperation of Mt. St. Helen's Council of Boy Scouts of America."

* * *

Not Far Wrong At That: Solicitous neighbor (to Ranger Bill's wife): "I should think you would just worry yourself sick with your husband away off in the mountains for days at a time and no word!"

Ranger Bill's Wife: "I just don't worry a bit. You see I know whatever happens to him he's used to it."

--------#--------

DISTRICT 7 - EASTERN DISTRICT

Poplar On The Blue Ridge: On the Georgia Division of the Cherokee National Forest we have what we think is the finest stand of young poplar extant. A rich cove on the north side of the Blue Ridge in the vicinity of Blood Mountain was clear cut 48 years ago when a heavy stand of poplar, ash, and chestnut was removed. The area has not been burned or disturbed in any way since that time. The soil immediately seeded up to a stand of yellow poplar with scattering individuals of locust and a few chestnut prouts. This rich little cove is about 25 acres in area.

Last fall Mr. E. F. McCarthy of the Appalachian Experiment Station took a half-acre sample plot in this area. The following figures indicate what he found in material of merchantable size. This is what nature did unaided. What might have been produced by proper thinning and cleaning is speculative. At any rate 45,708 feet B.M. per acre International Rule in 48 years is not so bad.

D.B.H. Inches	No. Trees	Height Feet	Merch. Vol. cu. ft.	Bd. ft. Scribner	B.F. International
8	1	77	9.0	31	31
9	5	80	60.0	215	265
10	7	83	109.2	434	553
11	6	87	118.2	516	672
12	6	90	147.6	654	876
13	12	92	352.8	1,608	2,172
14	11	95	362.4	1,625	2,475
15	8	98	334.4	1,582	2,176
16	8	100	388.0	1,944	2,584
17	7	103	385.0	2,016	2,695
18	11	105	704.0	3,740	4,895
19	2	107	146.0	760	1,040
20	3	108	237.0	1,350	1,710
23	1	110	100.0	600	710
			3,480.6	17,346	22,854
Per acre board feet -			6,961	34,692	45,708--M.A.M.

--------#--------

Service Bulletin
U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 36. Washington, D. C. September 7, 1925.

PUBLIC RELATIONS FROM A RAILROAD EXECUTIVE'S STANDPOINT

By Herbert A. Smith, Washington

Time was when the railroads were supposed to feel no need for the business asset called good-will. But times have changed. Any Government organization like the Forest Service can find plenty of food for thought in the effort that transportation interests are making to inform the public on the problems of their industry, to actively sell service instead of going on a "take it or leave it" basis, and to develop cooperative and friendly relationships with those whom they serve.

A recent public address given by Julien E. Eysmans, Vice President in charge of traffic, Pennsylvania Railroad system, is a model of effective public relations work, in both form and substance. It might be studied to advantage by everyone in the Forest Service. Unfortunately, only excerpts can be included in the SERVICE BULLETIN. But even in abridged form it is well worth thought. Try putting "Forest Service" in place of "railroad" or "transportation" and see how the shoe fits.

Speaking to the members and guests of the Indianapolis Traffic Club, Mr. Eysmans said in part:

"First let me thank you for a wonderful and long-to-be-remembered day. It was a fine thing for you to honor our road and its people in this manner, and you have done it all, down to the last detail, in a way that none of us will ever forget. Further, I wish to express the hope, in which I trust you also will join, that this happy and pleasant occasion will mark the beginning of an era of still closer friendship, better understanding and mutual helpfulness between the railroad with which I am associated and the great industries and business enterprises which you represent, and which we serve.

"All or nearly all of you who are our hosts are practical business men. The operation of a railroad, on the other hand, is often referred to as a form of public service, as distinguished from purely commercial activities. But we miss its true significance if we do not realize that it also is a business.

"A railroad, as a going business concern, is made up from three factors. First we have the physical plant. The second element is a working force. With a first-class plant and a first-class working force we would still not have a railroad business unless we had patronage; and that is where such men as yourselves come into the picture.

"The upbuilding and encouraging of patronage rests upon the creation of good-will, and good-will in turn rests upon dependable and satisfactory service courteously and pleasantly rendered. It is the desire and aim of our company's management to make it both easy and enjoyable to buy service from us, and then to see that the service contracted for is furnished with the highest degree of fidelity and certainty which is humanly possible. 'By our service may we be judged' might well be a motto of the Pennsylvania Railroad. Personally, I trust that this motto, or its equivalent, will some time be officially so adopted.

"Service is the only basis upon which we can solicit the patronage of any of you. I may add that we welcome your constructive criticisms or suggestions at any time regarding any feature or detail of our service or the standards of courtesy of our people. That is one of the most important ways by which you can aid us in continuing to progress and constantly better the character of the transportation which we have to sell.

"The production end of the railroad business is carried on by the Operating Department. It is that Department's duty to manufacture the only commodity we sell, namely, transportation. The selling of the transportation as produced, and the development of successful sales policies, are the functions supervised by the Traffic Department. They are carried out by personal touch, acquaintanceship, friendship, correspondence, the giving of information and all other means which come to hand for keeping open as many avenues of contact as possible with the buyers of transportation.

"On the buyers' side, there are no mediums of greater importance and value in promoting these contacts and making them valuable and profitable to both parties, than are found in the various traffic clubs of the country, of which your organization affords an example of conspicuous excellence. It would indeed be impossible, in my view, to overrate the value and worth of what the traffic clubs have done for American commerce and transportation. They have accomplished far more than merely facilitate the buying and selling of railroad service. They have brought the railroads and their greatest patrons closer together than would have been possible through any other means. They have provided avenues by which each side may know and understand the other's problems and necessities and so learn to judge and treat each other fairly.

"As a closing thought, let me try to make clear the spirit in which we, of this railroad, wish to meet and be met by the people of your city, and of every other community which we serve. A little while back I made the remark that we should like to see the Pennsylvania Railroad adopt as a motto, 'By our service may we be judged.' I did not mean that to be our only motto. There is another of at least equal importance which I would like to add to it, and which I hope some day may be displayed where it can be read by people who come to us in need of service or accommodation.

"It is this: 'You are a stranger here but once.'

"Would not that be a fine sentiment over the doorway of a station, or in a dining car, or in a freight or ticket office, or any other place where the public come to do business with us? We wish our patrons to be our friends and our guests, and to expect and receive the treatment always due to friends and guests. That is our ideal and we ask your help in the effort to maintain it.

"We want every shipper or passenger using our lines to feel that he comes to our road as a stranger only the first time. After that he is one of our old friends and regular patrons. I particularly wish to know that in the Indianapolis Traffic Club we have just as many good and loyal friends as there are members. That is really the chief message which I have come to bring you from our company's management, and I thank you again most sincerely for this splendid opportunity to present it."

--------#--------

TIMBER SALE ADMINISTRATION IN 1925

By E. E. Carter, Washington

As a rule, timber sale administration is well handled with our twenty years of experience as a basis. Still, some things go wrong. In 1925, inspections of sales in various Districts by a few men found breaks of which the responsible officers can hardly be proud. Where possible, they were remedied at once. It should be remembered that these instances are culled from a large number of sales and that often other conditions on these sales were good. But why these?

1. No spark arrester on an operating sawmill on National Forest land. Fire season had begun.

2. The purchaser on a large sale cut more than 200 seed trees left unmarked. It was his second offense of this character. "If a man gyps me once, that's his fault; if he does it twice, that's mine."

3. Locomotives not equipped with pumps in July, although required in May by the specific terms of the contract. Luck had been with the Service, and the purchaser, so far.

4. On a sale that has run for several years, although the volume of the annual cut is not large, no record of areas that have been accepted can be found. Areas cut over have not been properly cleaned up, but purchaser claims acceptance by former officer in charge who resigned last year. Sanitation at woods camp, on National Forest land, non-existent. Brush around camp a fire trap.

5. Officer doing penalty scaling wrote "This is poor logging" on end of log which had been left, and otherwise went out of his way to quarrel with the logging superintendent and foreman. He also penalty scaled some logs which were obviously culls. (He is no longer on the sale.)

6. District marking and forest sanitation instructions poorly carried out; so that it is very doubtful whether the desired reproduction will start or will not be smothered.

7. Contract so carelessly drawn that the purchaser is not obligated to pay the rates which may be designated by the District Forester at the reappraisal date. No provision for bringing up to date, at the time of reappraisal, the conditions of the contract concerning fire precautions, silvicultural practices, utilization, etc. Doubtful whether purchaser realizes or would assert his legal position, but what if some of our customers buy him out?

8. Boundaries not defined in the record so as to be recognizable on the ground and not marked. Insufficient consideration of boundaries as influenced by forest types at the time sale was made. Results, a mess from the viewpoint of economies, intermittent operation by the purchaser, unnecessary expense of administration, and constant pressure from the purchaser for permission to disregard essential contract requirements. More haste and less speed for the Forest force.

9. Ineffective spark arresters on donkeys. Spot fires being set by sparks and not being looked after promptly. Inspection in early part of fire season, but ground dry.

10. Officer in charge pointed with pride to the low stumps, for which he was certainly entitled to credit, but apparently had not seen, in the form of merchantable logs left on the sale area, many times the possible wastage in high stumps. Lack of consistent pressure to get these logs removed. Conditions bad enough to make company manager call down the logging superintendent before the inspecting officers. Everybody sore.

11. An excellently handled sale, except that the whole job was imperiled by a coal-burning loader with a sham spark arrester on it - the screen had no top!

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Some Interesting Fire Statistics: A comparison of the August 10 ten-day fire report for 1924 and 1925 brings out some interesting figures (Mr. Headley please note). In 1924 there had been a total of 889 fires, of which 517 or 58.2% were man caused. In 1925 there had been a total of 1297, of which 216 or 16.6% were man caused. This is a reduction in the actual number of man-caused fires of nearly 60 per cent. Further classification of man-caused fires shows (1924 figures given first): railroad, 67-49; smokers, 88-58; campers, 107-58; brush burning, 94-20; lumbering, 19-11; incendiary, 114-6; miscellaneous, 28-14. The record of total fires and man-caused fires for the 6 years preceding 1924 shows: 1918, total, 1134, man caused 605; 1919, 2258-1373; 1920, 1716-435; 1921, 1376-917; 1922, 1205-568; 1923, 651-223; total for 6 years, 8340, total man caused 4121, or 49.4%.

- - - - - - - -

Sawmill Studies Completed: Field work on the sawmill studies was completed by the Office of Forest Products during the present field season. This part of the work included a detailed mill scale study at eight representative Inland Empire mills. Twenty-four thousand five hundred logs were tallied to supplement the data collected previously in scale and time studies on 30,000 logs tallied at fifteen sawmills.

Results of the studies will include information on the minimum sized log that it is profitable to manufacture; the maximum defective log that it is profitable to manufacture; overrun figures; quality of the timber by grades and sizes; the effect of methods of transportation on the quality of the lumber - a comparison between river driving and railroading logs; a comparison of cost of different methods of sawing for better grades against quantity production; a comparison of cost, quantity, and quality of lumber produced in taper sawing against old method; a comparison of varying degrees of utilization in sawmill manufacture under different methods and equipment; on amount of short (4' and 6' lengths) select and common resulting in manufacture; on odd widths and lengths; lath, short box, and fuel production; necessary trimming allowance on logs; effect of different kinds and per cents of log defect on lumber grades; comparison between Forest Service and industry log scale due to the ½" "method" and "long logs (18' and over)"; information necessary for instruction on how best to "buck" logs in woods for grade and quantity.

The office work of computing the field data has kept pace, and the segregation and compilation for results in the projects are now under way.

--------#--------

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Investigating Area for New National Park: District Forester Peck and Supervisor Agee, with a party headed by Senator Kendrick of Wyoming as guests of the Sheridan Commercial Club, recently made a five-day trip into the north end of the Bighorn Forest and adjoining territory of the Crow Indian Reservation in Montana.

The purpose of this trip was to determine whether or not it would be worth while to advocate the creation of a new National Park and to invite formal investigation by the Coordinating Committee of Parks and Forests. This territory is notable for its deep canyons and is wonderfully well adapted for game propagation.

It seemed to be the opinion of the party, as expressed by Senator Kendrick at the completion of the trip, that it would be inadvisable to suggest the creation of a National Park at this time, particularly since most of the land would have to be bought from the Indians, which was thought to be an unjustified expense. There seemed to be a general agreement, however, that something should be done to protect the game in the country and make it a game preserve.

- - - - - - -

Meeting of Game and Fish Conservationists: During the week ending August 22, three important meetings of game and fish conservationists were held in Denver, viz: the American Fisheries Association, the International Association of Game and Fish and Conservation Commissioners, and the convention of Western State Game Commissioners. Many National and State leaders attended, and most profitable meetings were had. Differences of opinion among various camps of conservationists with regard to national regulations were removed. For instance, they agreed, in general terms, on a bill to take the place of the Public Shooting Grounds bill to be presented before the coming session of Congress. Through this bill it is hoped to establish the desired public reservations for migratory water fowl, but to give the States more authority than they would have had under the previous bill.

The leaders, National and State, seem to be in agreement on its general terms and it remains only to work out the details. There appears to be no question that big things will be accomplished for future game conservation in this country now that all the camps are in a frame of mind to cooperate. Assistant District Forester Hutton, on request, addressed both the Fisheries Association and the International Association. His address will doubtless be published in the proceedings of the respective associations.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

In Three Decades: The Gila Forest bulletin quotes from an official report by Major E. A. Mearns, who was in charge of the boundary survey between the United States and Mexico in 1892. "Our camps were well supplied with game which was very abundant," says the paragraph. "Antelope were shot by troopers in camps, firing by word of command as at target practice." The Gila Bulletin laments that now - just a little more than three decades from a time of game abundance - there are scarcely enough antelope left to count.

* * *

Aerial Conveyor for Frijoles Canyon: According to the Santa Fe Bulletin, a cable extending from the rim of the Rito de los Frijoles Canyon in the Bandelier National Monument down to the bottom of the gorge will be installed for the purpose of conveying provisions, hay, grain and other commodities used by the hotel operators. It is said that about 100 tons of material, something like 1300 pack loads, were taken down the trail on horses last year. Most of such material can be sent down on the cable, when it has been completed and put in operation. The conveyor line will be about 900 feet long. Inconspicuous, well-screened landing places have been selected in order that the beauty of the canyon may not be marred. It is expected that the installation of the cable will, besides cheapening transportation for the resort keepers who are putting it in, greatly lessen the wear and tear, and consequently maintenance costs, on the entrance trail.

* * *

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Fire Pump Test: You have doubtless all of you read descriptions of professional tests of the new light weight gasoline pumps that are being furnished by several companies for forest fire use. They tell about how many gallons a minute were thrown and how high the nozzle was up the hill, and how many hundred feet of hose were strung out, etc. At the same time I think that most of us have had a hunch that when a Forest Ranger took hold of the pump the thing would fail to operate as well as it does in the hands of the demonstrator.

Under the circumstances the following test may be of interest: At Cascade, the Payette Forest, which has a Pacific marine pump, started out to see what it would do, knowing nothing more about it than was given in the brief instructions on the tag attached. The pump was set up according to the directions, and the fly-wheel was given a turn; nothing happened. It was flipped again; nothing happened. It was turned a third time and the engine gave a couple of coughs. At the fourth whirl, it took hold and started roaring in fine shape and presently a good stream of water was being thrown. The pump was set up and got to going by an inexperienced crew, none of whom had ever used one before, in about five minutes.

- - - - - - -

Lions: During the early hours of July 21 a lion did some quick but destructive work when it got into Redd's herd at Gooseberry. It killed thirty-four head, presumably all for fun, as it never ate a bit of any of its victims. Of course, after Mr. Lion's yearning for sport was satisfied he may have packed away a choice lamb to appease his appetite.

A week later, the same lion, or else another one, circled the Nielson herd on the bed ground at West Mountain. The Navajo Indian shepherd in telling of the instance related, "Dog bark and bark, then run in tent. Me Locke out. Heap big coyote there. Me heap scart. Maybyso me go Blanding today. No come back, me."

The sheepmen are paying a $100 bounty on lions, and Roy Musselman, Utah's most famous trapper, is in hot pursuit. No doubt, this killer's hide will soon be added to Roy's already big collection.--LaSal.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Answers to Questions Asked a Lookout:

Yes, that "big hill" with the snow on it is Mt. Lassen.

Yes, the water IS rather warm.

No, the Forest Service doesn't furnish ice.

No, they carry the water up here on pack horses from that spring you passed on the trail.

No, that isn't a forest fire. It's the smoke from the Diamond Match Company's logging engine.

No, I don't live up here all winter.

No, my parents were born in Pennsylvania.

Yes, I sleep in the middle of the night if the air is damp and the wind isn't blowing.

Yes, I have a wife and two children.

No, I don't think there are any Indians over there now.

No, I furnish my own chewing tobacco and the Forest Service doesn't approve of its employees smoking in the woods.

No, I haven't been bitten by a rattlesnake this summer.

No, the bears haven't stolen any of my provisions yet.

Yes, I hear queer noises at night, but mostly it's pack rats.

No, the word "police" on my suspenders doesn't carry any authority with it.

Yes, this is the pine tree badge that marks a Forest officer.

No, it isn't gold. I polish it with Bon Ami.

No, I don't leave the flag hanging out all winter.--The Colby Lookout.

- - - - - - -

Hunting Fires by Airplane: The value of planes for use after one of our typical lightning storms was recently demonstrated on the Klamath.

A plane piloted by Capt. Potter left the Montague landing field at 7 a. m., and in two hours' time a complete trip was made over the Yreka District. Over twenty lightning fires were found in and adjacent to the Forest and each fire was circled so that Ranger Simson could determine just where it was, what it was doing, and what control measures should be taken.

I accompanied Capt. Potter on a similar flight the next day and was very much surprised at the effectiveness of such a trip for obtaining a clear-cut idea of the general situation, as well as observing in detail just what was happening on each fire. We found three fires which were not under control and it was easy to see that special efforts would be necessary to corral these that night if we were to prevent bad fires.

Tuesday, August 12, rolled around with all of the Klamath lookouts out of commission because of a heavy bank of drift smoke. At 11.45 a. m. the airplane left Montague field with Ranger Simson as observer. All the old fires were covered and found to be O.K.

A close examination of the incendiary districts was then made and, as was half expected, four tiny smokes were found starting up in Horse Creek. Messages were quickly written and dropped at Walker Guard Station.

After great difficulty in getting out of the Klamath Canyon, the plane returned to the landing field and Ranger Simson got busy with the telephone. He found that his messages had been received and acted upon.

The road crew had already been sent in, Ranger Bigelow and five other Forest officers were on their way with crews from Walker, Scott Bar, Hamburg and Yreka. The pack train was on the road.

Results:-- Six well calculated incendiary fires controlled by 10 p. m., and only squeezing into the C class. These fires would certainly have burned for four hours before being discovered by the emergency patrolman and might have gone undiscovered until the next day.--F.D.D.

DISTRICT 6 - NORTH PACIFIC DISTRICT

Legal Proof: Smoldering cigarettes and burning pipe heels have both again been legally proved guilty of causing forest fires.

Recently two fires were started on the Chelan. One along the road between Brewster and Carlton was caused by throwing lighted cigarettes from a car. The guilty party was apprehended with sufficient evidence for conviction in Justice Geissler's court at Brewster. In addition to the fire and court costs imposed by State law the party was assessed $14.00, the cost of extinguishing the fire.

The other fire was caused by a sheepherder on Buttermilk Creek, who went into a willow thicket to cut a pole. While running around in the thicket he knocked his pipe from his mouth, spilling the burning tobacco. The fireman on Lookout Mountain reported a fire between the forks of Buttermilk. When the trail crew arrived 1½ hours later, they found an 8-acre fire. The sheepherder admitted having been the cause of it. The judge did the rest.

- - - - - - -

Doing It Now: Lumberman George West of the Crater has converted the Owen-Oregon Lumber Company to the practice of piling and burning the brush as they log whenever weather conditions will permit. The type is yellow pine-fir, with occasional sugar pines in mixture.

During the several weeks of stormy weather West induced the logging superintendent to try out piling and burning the brush, using the swamping crew, after falling but before skidding or hauling had been undertaken. West also did some good public-relations work with the swamping crew boss in enlisting his aid in making the trial a success.

-------#-------

THE WOOD IN YOUR NEWSPAPER

Every person who buys a twenty-four page newspaper for two cents cuts out of the forests of the United States or Canada a block of wood two inches high, three inches wide and four inches long.

With the help of a paper mill a cord of wood informs 5,000 people of the day's news.--Washington Times.

- - - - - - -

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 37. Washington, D. C. September 14, 1925.

DISTRICT THREE TRAINING CAMP

By Geo. H. Cook, D-3

The 1925 District Three Training Camp at the Southwestern Forest Experiment Station near Flagstaff, Arizona, began Monday morning, August 17, with 36 trainees, three instructors, and four visitors in attendance. The instructors were Loveridge, Calkins, and Randles, and the visitors Pooler, Pearson, Merkle, and Cope.

District Forester F. C. W. Pooler opened the camp with an inspirational address to the men on training and its benefits. To mark 1925 in D-3, he stated, there have been the Supervisors' conference on the Santa Rita Range Reserve, the fire conference of Assistant Supervisors and fire specialists in Albuquerque - which was followed by the instruction camps for protection forces attended by 326 of the forest staff men, rangers, guards, trail foremen, and near-by ranchmen who have appointments as per diem guards - and, finally, the ranger training camp that is now in session.

Mr. Pooler discussed priorities, that is, the relative importance of jobs that enter into a Forest officer's program of work. He pointed out that the protection of the Forest property itself is paramount. The condition on the ground of the various forest resources must be earnestly regarded. Second to protection is the improvement, development, and extension of the Forest property. Third comes business efficiency in gaining the desired results. Inspection methods and objects of inspections were explained. Standards, meaning the best practices developed through years of trial, were discussed, as were work plans as a means of getting more done.

Perhaps the most effective part of the District Forester's talk was the section that treated of the relations of the men with the public. He urged the formation of more advisory boards among Forest users before which local problems can be taken and through which public sentiment can be felt.

Regarding appeals from the decisions of Forest officers, Mr. Pooler stated with emphasis that appeals should always be considered judicially and never with the idea of upholding the decision of subordinates as such. This, to be sure, has been both the ideal and the practice, but in spite of it many people believe the contrary.

"Forest officers should be big enough to see mistakes and frank enough to admit them," declared the District Forester. "Such action is only right and fair to Forest users. If public criticism comes, there is nothing gained from "getting sore" at unjust statements. Remarks that point out real weaknesses should be recognized and the weaknesses corrected." Rangers were encouraged to analyze and criticize instructions and existent practices in writing through their superior officers to the end that the Service may have the advantage of constructive ideas. At the close of the District Forester's address the intensive instruction of the camp began in earnest.

-------#-------

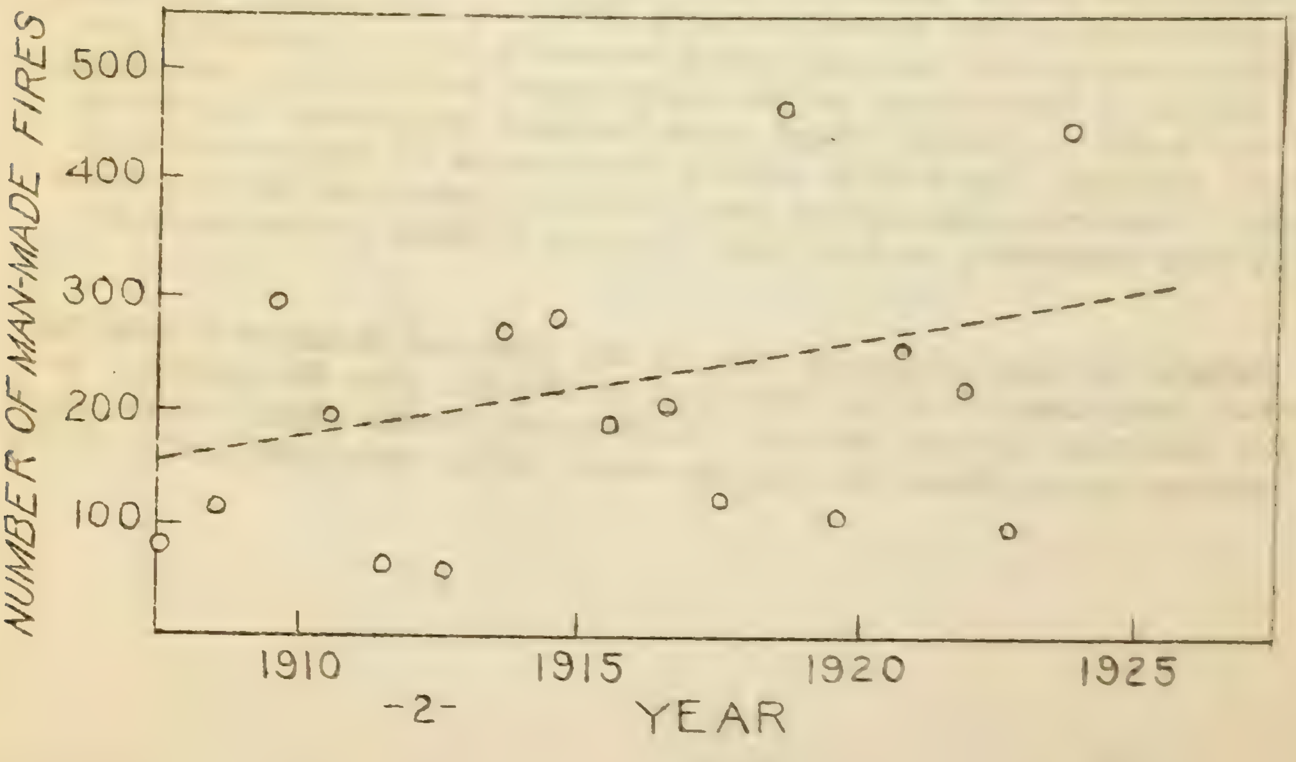
FIRE CONTROL IN DISTRICT 4

By F. S. Baker, D-4

Mr. Headley, in his article in the SERVICE BULLETIN of June 1, entitled "The Unpleasant Ending to the Story of Progress in Fire Control," seems to have stamped on the toes of the Public Relations men by the way they are coming back at him. "The more the merrier," so here goes another shot.

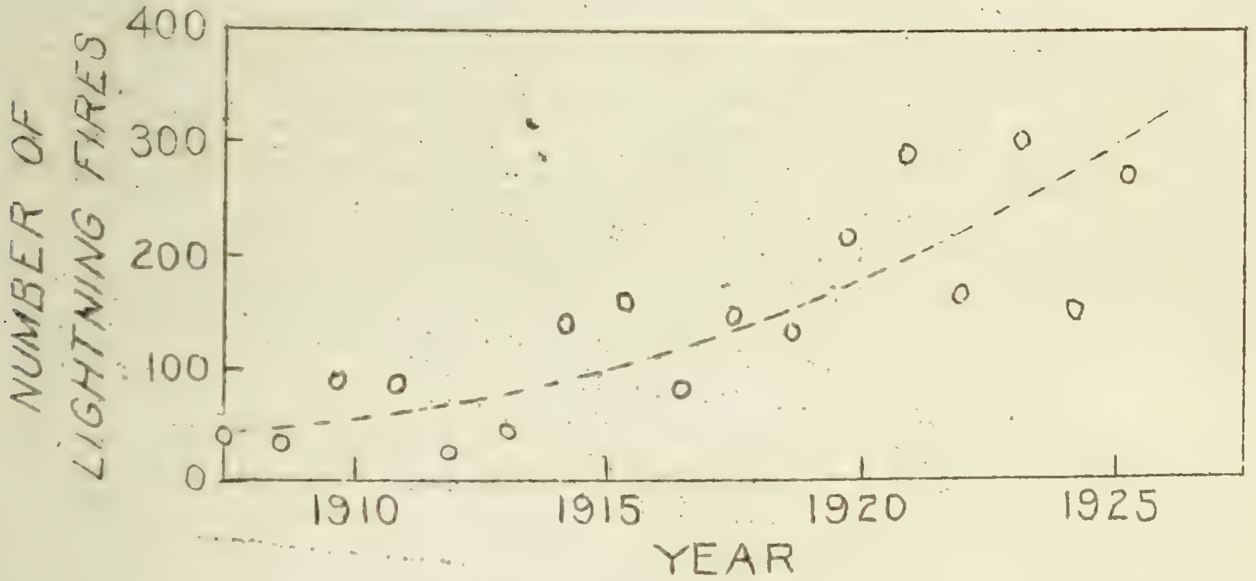
Mr. Headley admits that we can take a view that we have greatly reduced the number of man-caused fires per thousand people using the Forest, but believes such a view to be unsound. I can hardly agree with him on that proposition, but it appears to me that as far as the Intermountain region is concerned, we can go farther than that and claim a real reduction in man-made fires, even when the greater number of visitors to the Forest is left entirely out of consideration.

First, let us present the damning evidence:



As will be noted, there is a constant upward trend to the curve of man-made fires, rising from an average of about 150 a year in the early days to about 300 at the present time. This is the evidence upon which Mr. Headley bases his conclusions.

If our efforts to reduce the number of man-made fires have proved unavailing, how very much worse have been our efforts to calm the wrath of Jupiter, for his thunderbolt-hurling proclivities have increased six times during the same length of time that human beings have doubled their activities. The diagram below shows the statistics. Fifty lightning fires a year was a fair average once upon a time. Now it comes closer to 300. I do not suppose everybody will go as far as to claim a regular increase in lightning all these years. It is much more reasonable to say that our increased efficiency in protection has picked up this greatly increased number. If we are now working a hundred per cent efficient, in the olden days we were only picking up one fire out of six, as the showing of the lightning fire record. Accordingly, about 1910, instead of 150 man-caused fires a year, we must have been having about 900, most of them doubtless abandoned camp fires, dropped matches, etc., which started fires burning a few square feet before they went out of their own accord. These we are picking up at the present time.



If this argument is admitted, we have reduced our man-made fires from 900 a year to 300, and that in the face of approximately double forest use. Figures compiled roughly indicate that 15 years ago about one million man days were spent on the Forests of this region as against two million at the present time. Who says we have not made progress?

There are some holes in this line of argument we must admit. No one knows that any better than we do ourselves. To tell the honest truth, however, we really think that there is more truth to this item than there is to Mr. Headley's original article that prompted this come-back.

DOUGLAS FIR IN THE NETHERLANDS

By Richard E. McArdle, Pacific Northwest Forest Experiment Station

A report on Douglas fir in the Netherlands, issued last year by the Dutch Forest Experiment Station, contains many items of interest to American foresters. The Dutch investigators have found, for example, that comparing similar sites the Douglas fir yield in Holland is about the same as for Douglas fir in Germany, but is somewhat less than is obtained on the Pacific Coast in the United States. Compared with Scotch pine, which heretofore has been perhaps the most important timber tree of that country, the yield of Douglas fir is more than double. As a revenue-producing tree the Douglas fir is very likely to supersede the Scotch pine.

Apparently the Dutch are not at all backward in adopting new tree species which are better suited to their needs than those they formerly have had. Although the average age of the Douglas fir plantations in Holland is less than thirty years, the "Douglas wood" is already much in demand for posts and mine timbers. For these purposes the Douglas fir is superior to the Scotch pine because the fir wood is stronger. This, the report says, is because in spite of its fast growth the fir has a high percentage of strong "summer" wood, but fast-growing Scotch pine is composed mostly of weak "spring" wood and so does not have the strength of Douglas fir wood.

On the whole, the Dutch are much pleased with Douglas fir, and at the end of the report the prediction is made that "as a forest tree with an exceedingly high yield and valuable wood, moreover only slightly subject to damage, preserving good soil conditions and easily regenerating, the Douglas fir will prove a valuable acquisition to Dutch forestry."

WASHINGTON NOTES

New Booklet Issued: The American Forestry Association has just issued a very attractive booklet entitled "Forest Conservation." Its purpose is to assist the high school boys and girls of Ohio who desire to participate in the Martin L. Davey Forest Conservation Scholarship Contest. This booklet contains several articles which have been selected from past issues of AMERICAN FORESTS AND FOREST LIFE as best portraying some of the more important phases of forest conservation. It is profusely illustrated and should be an inspiration to every boy and girl who receives it. This publication has been made possible by the generosity of Congressman Martin L. Davey, President of the Davey Tree Expert Company, Kent, Ohio, who will provide a $4,000 scholarship in any Ohio college or university for the high school pupil of the State who writes the best essay on Forest Conservation.

- - - - - - -

Tom Gill has just returned from an inspection trip in Districts 1, 2, and 4. The last two weeks were spent in the Black Hills with M. W. Thompson, H. D. Cochran, and two motion picture men from the Department. The party was engaged in filming two motion pictures there, one having to do with the Forest Service marking policy in western yellow pine and the other picture portraying what Uncle Sam does with his timberlands. Gill says that after a few days' experience his movie actors, Rangers McGill and Marion Webber, began inquiring about railroad rates to Hollywood. Gill fears the worst.

- - - - - - -

A Boost for the Woodsman: Lord Selborne, speaking in his own woods to members of the Royal English Arboricultural Society, is quoted by the London Times as saying pleasant things about the forester's life.

He could not imagine a more healthy, honorable, skillful, useful, or interesting employment than that of the woodsman or forester. Of all forms of manual labor, that connected with woods, plantations, and forests was perhaps the most attractive. If he still had any strength left in his old bones, if the time came when the class to which he belonged was reduced to the position to which extreme gentlemen of the Socialist Party would like to see it reduced, he would certainly seek employment in his own woods, which would have been confiscated by the State.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

"Three-Tree Lightning": An item in District 5's Bulletin of August 7 calls to mind a fire which recently occurred on the Mountainair District of the Manzano. In this case, as in the California fire instance, three trees were struck. This bolt hit two yellow pines and after shattering the tops of both, it started for the ground, peeling a six-inch strip of bark from each in its downward course. Standing near so as to form an equilateral triangle was a dead snag (snag-felling enthusiasts please note) and when the bolt or bolts reached the level of the top of the snag, which was about thirty feet, they took this detour to the ground setting it on fire from top to bottom. Of course, we are not competing with California - their trees were probably bigger, the fire hotter, the lightning hit harder and the smoke went higher, but anyway we have a variety of "three-tree lightning" in D-3.--L.H.L.

- - - - - - -

He Didn't Read American Forest Week Material: A party visiting the Rito de los Frijoles made the error which has been frequently made before, that is, of camping on the rim overnight, cooking breakfast, and then going into the canyon for the morning for several hours or the whole day without having extinguished their camp fires. In this case the guilty persons were taken before the Justice of the Peace at the Los Alamos Ranch and fined $12 and costs. There may have been a good excuse for the mental lapse in this case, since the male of the species was on his honeymoon, but being a prominent educator of New Mexico, the court considered him more than ordinarily guilty. He was asked by the court if he had ever heard of American Forest Week and whether he had received fire prevention material at his schools. He said that he had but gave it out to the teachers and pupils without paying much attention to it, since he did not live in a forested region and never expected to be near a forest.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

A New Activity: The Fishlake has discovered a new use being made of its territory but has not decided fully as to whether or not it rates a special use permit.

An enterprising salesman for a Savings and Loan Company, undaunted by the lonesome hills and lack of auto roads in the back country, is making the various sheep camps by means of a saddle horse and selling savings and loan contracts. He carries no camp equipment but depends on the almost universal hospitality of the sheep camps for bed and board. Undoubtedly the salesman has quite a psychological advantage for the combination of a visitor from the outside world, an uninterrupted opportunity for sales talk, and no chance to spend his money, makes the lonely sheepherder a good prospect.

The salesman claims to be doing a good business but says he has had to keep a herder and camp tender up until 3 a. m. before he closed the sale and they then all went to bed. (Those herders have a 5 a. m. appointment to keep every morning, too.)

Though asking freely for information as to routes of travel from two Forest officers, he made no attempt to "sell" them. Probably they didn't look very prosperous as they were just returning from a five-day pack trip.--M.H.D.-Fishlake News.

- - - - - - - -

A Catastrophe: A rumpus is brewing between the Office of Operation and Engineering and it threatens to shake the organization to its foundation.

Pearson borrowed or in some way acquired some cats to keep down the numbers of mice in the Forest Service warehouse. These cats don't thrive specially on an exclusive mouse diet, so it became necessary to buy some cat food - no knick-knacks, you understand - but just plain food. Accounts is not disposed to pay the vouchers unless the cats belong to the Government and everything is straight. Meanwhile the cats are multiplying and the Malthusian law is in operation. It is understood that the S.P.C.A. will not allow the cats to be killed. It may take a special act of Congress to untangle this case.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Mono Has Good Forage Year: An excellent forage year, one of the best the old-timers claim to have seen, is now bearing fruit in an excellent lamb crop. Many lambs are being shipped direct from the range, nearly all of which go above 83 pounds with but a few throw-backs. Unusually high prices prevail, which are tending to lighten the burden felt by the stockmen during recent years. The herders, however, have had to run the gauntlet of lightning in several cases and at least three are reported to have nearly "cashed in." Quite a few sheep have been killed by electrical storms.

- - - - - - - -

Boy, Page Mr. Green: Ranger P. A. Land of the Sierraville District of the Tahoe went to Reno to get repairs made on his "Star." He claimed to have broken springs, etc. A few days later his fellow officers dug up a news item in the RENO JOURNAL announcing his marriage to Clara Kayo of Penryn. No honeymoon for Pete. He was on the job hunting lightning fires in his district 48 hours after the event. Moral: Forest Rangers - marry in the winter when there is time for the honeymoon.

- - - - - - - -

Popular as Ever: 34,550 people registered at 14 canyons on the Angeles National Forest from 5 p. m. July 3 to July 5, inclusive. Smoking, fireworks, and firearms were tabooed. Travel this year was much lighter than in previous seasons due to erroneous reports on road conditions that appeared in the press.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Grand Lodge Elks Endorse Forestry: At their recent convention held in Portland, the Grand Lodge of the B.P.O. Elks passed a strong forestry resolution. As a special tribute to the timber-growing region of the Northwest, this resolution was given preference over nearly a thousand others appearing before the grand lodge.

After citing the importance of the forests and the destruction by man-caused forest fires, the resolution "endorses and approves the campaign of the United States Forest Service and pledges the support of the grand lodge and its officers and members and all subordinate lodges to the campaign to 'SAVE THE FORESTS'".

The resolution was originated by Mr. E. T. Spencer, Secretary of Ogden Lodge #719, and was endorsed by the Utah State Elks Association. Mr. Spencer drove from Ogden to the convention with his car decorated with large forest protection banners. Assistance in getting the resolution before the grand lodge was also given by J. B. Olsen of the staff of THE TIMBERMAN, and a prominent Portland Elk.

Copies of the resolution will be mailed to all Elk lodges throughout the country. It will also be featured in the national Elks Magazine.

- - - - - - -

"Calling Mr. Gisborne of D-1!" J. W. Ferguson, warden of the Clackamas-Marion Fire Assn., is hitting his summer's stride. Without going into tiresome details, he has made something over 20 arrests, secured something over 20 convictions, resulting in something over $1000 in fines to date. All in the day's work and nothing to get excited about, but one case was a little out of the ordinary. As Ferg was going up the Highway, he saw a lighted cigarette butt shoot out of the car ahead and light in the grass. He collected the snipe as evidence and overhauled the car, which contained one lady and no one else. She pleaded guilty and was fined $25 at Molalla!

-------#-------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 38. Washington, D. C. September 21, 1925.

OUR FRIENDS - THE RECREATIONISTS

By Jno. D. Guthrie, D-6

During the last six months or so, we've been looking into this question of Recreation a little more scrutinizingly than ever before. There was a reason. The Outlook said some sharp things about us, for one thing.

We should not begin to lean over backwards on the subject just because of this, it seems to me. Frankly, I am unable to get very much excited about it. Mr. Sherman said many sane things about the Forests being used for recreation long before the National Forests were ever green on the maps.

In our self-analysis over the subject, we do not want to forget for a moment the millions of friends we have made for the National Forest enterprise by letting the public know what is in the National Forests and that they could use them for camping, fishing, hiking, and hunting.

The average man, the layman, isn't especially interested in the need for growing of timber, or the lumber supply, or the livestock business; these subjects are pretty intangible to him. He is interested in where he is going to take the Mrs. and the kids for a week-end or for his summer vacation. If he is told that there's a good Forest Service road up into the mountains and that there's a fine Forest camp ground with fireplaces, tables, pure water and sanitary conveniences, and maybe good fishing near-by; that all this is free for him and his family to enjoy - well, you've got his interest right there. The outdoor lure has seized him. And once they are inoculated with it, they rarely ever get over it.

From an interest aroused by the recreation appeal (and the lesson of forest protection should have been learned ere this) he, the Mrs. or the kids, or maybe all of them, will want to know more about the National Forests - what they are for, why the Government should do this for the people, what other use is made of the Forests, etc. Pretty soon, maybe, they have learned something about the need for growing more trees, and what is forest conservation.

I maintain that Forest Recreation, with the little time, thought, and money which we have put into it, has brought us the largest returns of any work which we have ever done on the National Forests. The returns have been in friends and supporters of the National Forest enterprise, than which there are no better returns.

-------#-------

SAWING VS HEWING LODGEPOLE PINE RAILROAD TIES

By M. W. Thompson, D-2

In the Rocky Mountain region much difficulty has been experienced during the past several years in arranging for the utilization of lodgepole pine and associated species which are too large for hewing into railroad ties. The difficulty started about ten years ago when some railroads refused to accept sawed railroad ties, but was relieved during the war when the Railroad Administration put into practice the purchasing of sawed railroad ties on the same basis as hewed ties. Prior to 1918 this feature, as well as a depressed lumber market, made it very difficult, and impossible in many localities, for operators to handle sawed products.

Both the demand and selling price of lumber fluctuate more than those of railroad ties, so that sales including both products are ordinarily much less attractive to the average tie operator than sales including only material suitable for hewing into ties. Also, many operations are so located that lumber cannot be produced and marketed at a profit, or even without an actual loss.

This situation has resulted in much interest being taken by Forest officers, particularly on the larger railroad tie-producing Forests, in the development of small portable mills for tie production. A very satisfactory start in the establishment of such mills has been made on the Medicine Bow Forest and early extension to other Forests is expected. American Number 1 mills are being used, but any similar small mill should work satisfactorily. This mill complete costs about $450 f.o.b. Hackettstown, N. J. A Witte gasoline engine, mounted on wheels, furnishes power for one mill, while an ordinary Fordson tractor furnishes power for another. These mills are strictly portable and can be moved and set up in a day.

The stand where these small mills are being used is rather open and scrubby, and includes an area considered non-commercial when cutting of adjacent areas took place a number of years ago. Timber purchasers have their cutters hew such sticks as are suitable for hewing and make the larger and very rough material into eight-foot sawlogs. They contract for the skidding and sawing of the logs at 35¢ per tie. The mill is furnished by the purchaser as well as the heavy maintenance, such as the purchase of a new saw when necessary; the contractor furnishes the engine or tractor, fuel, oil and ordinary maintenance.

The mill crew consists of a sawyer and a slab and tie man, as well as two boys each with a horse for skidding. Logs are skidded for a distance of about 3[illegible] feet around each mill set, and an average of about 175 railroad ties is produced each day. From 1,000 to 2,500 sawed ties are being produced at each setting, depending on the density of stand and the size of the timber. No lumber is made, most of the slabs being disposed of for firewood.

The cost of producing ties by sawing is compared with the cost of hewing in the following statement. This comparison is carried only as far as hauling, since the costs beyond that point would be the same.

	Sawed Ties per tie	Hewed Ties per tie
Felling, bucking and brush disposal	$.10	--
Felling, hewing, brush disposal, marking and cutting strip road	..	$.26
Milling	.35	..
Mill depreciation and heavy maintenance ..	.01	..
Total	$.46	$.26

These figures show that it costs 20¢ more to produce sawed ties than hewed ties. However, [illegible]5 per cent of the sawed ties is in Class one, while only about 30 per cent of the hewed ties is of this class. Class one ties sell for $1 each, while the selling price for the hewed ties averages about 85¢. The stumpage rate placed on sawed ties has been about [illegible] each, while the stumpage price for hewed ties averages about 1[illegible]. The margin for profit and risk amounts to about 15¢ per tie. These figures show that the increased cost of producing sawed ties is largely covered by the greater selling price and lower stumpage rate for this class of tie. While the production of sawed ties is feasible under present conditions, hewing is the more economical method of producing railroad ties from material adapted to this means of production.

-------#-------

REGULATION OF WATER POWER DEVELOPMENT IS NOT NEW

By T. W. Norcross, Washington

I have been reading lately a history of early water power development in this country. Some members of the Forest Service may be interested in a few of the high spots.

Only eight years after the Plymouth Rock landing, the Pilgrims began to develop water power plants in the form of grist mills. Several of these were constructed within the next few years. Almost coincident with this construction, the Colonial Governments began to exercise control over the development and use of the water power resources. In 1629 the New Netherlands legislature granted a privilege of all rivers within proscribed limits and their use for grinding. Later in 1638, the general court of Massachusetts issued regulations concerning the management of corn mills. In the same year, the Massachusetts colony erected a sawmill. Before 1639 there had been the beginning of three governmental powers which later came to have great proportions and far-reaching effect:- (1) Government control of water power resources; (2) Government regulation of water power plants; (3) Government ownership of water power industries. Both power development and Government control spread quickly through the other colonies in the next few years and there was a very large increase in the amount of power developed. This progress continued on through the Revolutionary and Civil War periods up to the present time. These matters are still live subjects of discussion and thought.

Federal control over navigation began shortly after the banding together of the several States. Its first demonstration was in the latter part of the eighteenth century. The extent of national control over water power development on navigable streams increased materially after the end of the Civil War.

It seems almost as if the Pilgrims must have brought with them the plan of Government control over water power development. Possibly such control had been exercised previously by some of the European countries. My research does not go that far. Does anyone in the Forest Service know about this?

--------#--------

WASHINGTON NOTES

Mr. Peters, recently returned from a trip through Maine, New Hampshire, Vermont, Massachusetts, and New York, reports progress particularly in protection and nursery work and the establishment of State forests. Protective organizations have been strengthened through additional and experienced personnel, the territory subdivided for more effective handling, the lookout systems are practically complete in some instances, and additional equipment is being provided. Peters believes that there are two outstanding weak spots in the protective work of these States. First, the need for more publicity and educational work, and second, the inefficiency of the local firewarden system. New York is the only one employing a special publicity man and his work is confined largely to the Adirondacks and Catskills. The local firewarden systems, while showing improvement in their cooperative relationships with the State protective organization, are still far the most inefficient, due largely to the political organization of the State governments in which the Town body is extremely strong and independent.

- - - - - - - -

Mr. Squire has returned from an inspection of the Alaskan Forests, as well as some of those in Montana and Oregon. He reports a most interesting and instructive trip, particularly in Alaska and to a slightly less degree in Montana. In the latter section he was fortunate enough to miss the fires and, therefore, was not obliged to crowd any husky fighter out of his place in the front line. Mr. Squire says he was prepared to hear more or less criticism of the work of the Service in Alaska but was more than gratified by the words of commendation of our work and officials which came from the various newspaper-men and leading citizens whom he met. In Montana he had the unique experience of tramping around for two hours in the rain looking for an inconsiderate automobile which had lost itself in the woods.

- - - - - - - -

Mr. M. S. Wright, Assistant Engineer in the Branch of Engineering, has now returned to the office after a seven weeks trip in Districts 1, 2, 4, 5, and 6. Mr. Wright made a special study of surveying and mapping activities while in the field. He also stopped in New York to consult with the Fairchild Aircraft Association regarding aeroplane surveys.

- - - - - - - -

George H. Cook of District 3 is now in Washington on a detail to the Department Office of Exhibits. Cook showed his customary caution in waiting for the heat wave to subside before reaching Washington.

- - - - - - - -

Tom Gill's latest story "Madonna of the Pueblos" has just appeared in the October issue of COSMOPOLITAN.

- - - - - - - -

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

New Forest Service Motion Picture: Messrs. Thompson and Cochran have just returned from the Black Hills where, with Messrs. Evans and Tucker of the Departmental Motion Pictures, they completed taking motion pictures of Forest Management activities. One picture, rather general in character, covers the harvesting of timber on the National Forests and the other, a more technical picture, covers the marking of western yellow pine in the Black Hills region.

- - - - - - -

The National Lumber and Creosoting Company, which has treating plants in Texarkana and Houston, Texas, and Kansas City and Cincinnati, is building a plant for the treating of railroad ties at Salida, Colorado. It is understood that this company has entered into a contract to produce for the D. & R. G. W. Railroad a minimum of 500,000 ties during each of the coming two years. This new development should assist materially in marketing timber from the National Forests in Colorado.

- - - - - - -

E. N. Munns of the Washington Office of Research stopped off in Denver the other day on his way to Colorado Springs, the headquarters of the Rocky Mountain Forest Experiment Station.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

New Mexico to Limit Grazing on State Lands: The State Land Commissioner of New Mexico has issued an order by which new grazing leases applying to State lands will limit the grazing of cattle to 30 head to the section. No restriction on livestock grazing on leased State lands has been in effect before, and the new measure is regarded as a distinct forward step on the part of the State in an effort to protect State lands against overgrazing and the numerous land damages that follow as a consequence.

- - - - - - -

Office of Drafting Builds a Relief Map: An interesting piece of work recently completed in the District Office of Drafting is the construction of a relief model of about 1½ townships covering the Dillon Mt. region in the vicinity of Luna, New Mexico. The model was built up of layers of beaver board, each thickness representing a contour interval of 100 feet, and is on a scale of four inches to the mile. The topography was smoothed up to represent actual conditions as closely as possible by the use of a mixture of plaster of Paris and mucilage. Including Forest officers' time, the total cost of the model will be less than $150. An estimate received from a branch of the Army in Washington for a slightly larger model was $700 to $800. This relief model is used at the Ranger Training Camp.

- - - - - - -

Regulation T-11 is Moving the Stuff: More than 500 head of unpermitted stock were gathered in the recent Canjilon round-up on the Carson. Two hundred and sixty-five head were redeemed by owners at a cost of over $500 and the rest sold at public auction. Similar results are being obtained on other Forests, which show that regulation T-11 is becoming effective and is gaining respect among people who, through indifference or intent, have imposed on Forest ranges for years and years.

- - - - - - -

Snake Weed Has an Enemy: Supervisor Miller and Ranger Oldham of the Coconino Forest recently found an area west of Indian Flats where the snake weed is dying out. It is said that a worm which behaves much like cut worms has been attacking the plant and has apparently destroyed it on hundreds of acres. Grama grass, which exists on the same area, does not appear to have been injured by the worm.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Fire Season Shot in the Eye: Ten-day fire reports all carry the story of rain, snow, hail, cold weather, frosts, etc. Lookouts are being pulled down from the mountains and temporary guards removed. While of course we have had Octobers that turned out to be pretty fairly bad fire seasons, it looks as though the big fire act was over for the year 1925.

- - - - - - -

Dynamite Afire: A recent article from the District Office on use of dynamite was brought forcibly to the attention of the Salmon personnel when a fire occurred on Trail Creek as a result of a miner blowing up an old tree which caught fire after he had gone to dinner, setting the surrounding brush on fire. Only by continued efforts on the part of the Supervisor, Ranger, and several persons hired for the occasion was it prevented from getting into a very heavy stand of mature yellow pine.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Packing Fire Equipment by Airplane: On a recent fire on the Santa Barbara we found it necessary to ask for the use of the plane stationed at Griffith Park. The plane was piloted by Lieutenant James, and his mechanic, Babcock, came with him to Santa Barbara. Upon their arrival, which was at about 1[illegible] o'clock in the morning, we went down into Blue Canyon where the fire was burning and had a good look at it. When we returned I knew exactly what the situation was; in fact, I had a better knowledge of it than the men on the ground. So without waiting for any word from them we immediately got busy and sent 25 more men across the mountain, as it was very evident that they were badly needed. The men had no more than got started when Ranger Dunne reached a telephone and notified us that he wanted 25 more men and equipment. He was then told that this number, fully equipped, were already on their way.

Dunne ordered emergency telephone wire sent over the mountain, in order that a telephone could be installed at their base camp. There was no pack stock available and Lieut. James said, "Let's put the wire over with the plane." That afternoon a trial trip was made and one coil of wire put down. It worked all right, so we immediately started the wire across the mountain with the plane. We found that the material could be put on the ground with one plane faster than with any ten head of pack stock. In fact, we demonstrated that it was possible to put into a fire camp anything that was needed in the way of supplies or equipment that could be dropped from a plane.

Before this fire was under control, another one started on the Angeles in Ranger Nash's district. He was fighting fire in one of our most distant camps when word came at night that he was badly needed on the Angeles. As soon as day broke, Lieutenant James and myself went with the plane to his camp and dropped a note within 2[illegible] feet of where he was standing. He made some twenty-five miles over rough country to Santa Barbara by 12 o'clock that day. If it had not been for the plane a great deal of time would have been lost before Nash could have reached Santa Barbara.-- C.E.J.

--------#--------

DISTRICT 6 - NORTH PACIFIC DISTRICT

The Fire Situation in District 6 up to August 2[illegible] may be briefly summarized as follows:

We have suppressed 127[illegible] fires, 70 per cent of which were caused by lightning. Area burned over amounts to about 28,000 acres and fire fighting costs to about $125,000. Weather conditions have been characterized by an extremely long drought, in fact, the longest drought ever recorded at Portland, Oregon, where records have been kept for over 50 years. Conditions have been critical, but certainly not the most critical ever experienced in the District. Most of our fires were completely extinguished without the help of rain. Precipitation and comparatively high humidities which have occurred over the major portion of the District for the past week or ten days have been a great relief in that they have cleared up the atmosphere, given us a chance to clean up on all existing fires and come at a period which normally constitutes the very peak of our season.

Commenting further on the above statistics, it may be said:

1. That the total number of fires has been unusually large.

2. That the number of man-caused fires has been considerably below normal.

3. That considering number of fires and seasonal conditions the acreage burned is comparatively small (.12 of 1%).

4. That costs have been high in comparison to acreage involved.

In regard to costs, it might be argued that the comparatively high cost is a result of our approved policy of hitting fires hard in the start, and that through holding down acreage we naturally increase the cost per acre. A closer analysis of figures, however, shows that the great bulk of the costs has been not on the large number of small fires which were hit hard and put out before they could spread, but on a comparatively few large fires. These were fought to a finish and prevented from making further spread, but it is again clearly on this class of fire where the great bulk of our expenditures go and where we have the greatest opportunity to economize through our organization and management.

- - - - - - - -

PR on Fire! Ray S. Tuttle, in charge "Publication of Results," Forest Products Laboratory, spent a few days in the District during July and August. Short as was his visit, it seemingly was ordained that he was to duplicate an experience he had in District 1. In that District he met up with a fire, where he remained for 10 days in charge of one of the pumps. An hour's visit to the Wind River Experiment Station brought him again into close quarters with another fire, where he remained for four days giving effective service. True, he had no chance to keep out of the picture. The fire completely blocked the road, making a get-away out of the question.

- - - - - - - -

Warning the Picnicker: Fire warning slips in picnic goods may be one of the forest fire prevention aids next summer. Mr. E. B. Hall, Chairman of the "Stop Forest Fires Association" of the Klamath County Chamber of Commerce, has sent out a letter to nine of the national manufacturers of picnic goods requesting them to include such slips next summer. An additional list of picnic goods manufacturers is being compiled in Portland for their use.

It is expected that the drive will be taken up by other constituent members of the Oregon State Chamber of Commerce similar to the cigarette drive last year.

Mr. Lynn P. Sabin, Executive Secretary of the Klamath County Chamber of Commerce was the originator of the "Stop Forest Fires Association" idea, and some splendid publicity work in fire prevention has been carried on by his organization.

-------#-------

L'Envoi

The leaves upon the chestnut die,
The roots decay,
The fat white worm must say goodbye,
Nowhere to stay;
The toothsome nut in downy bed
Holds him no more,
The tree is dead!

Pathology and deep research
Give up the fight.
Sic transit nunc Castanea,
Victim of blight.
Vale, adieu, farewell, goodbye,
The germs live on
But thou must die!
--Josephine Laxton.

- - - - - - -

The oldest living thing in the world is a tree.

- - - - - - -

-------#-------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 39. Washington, D. C. September 28, 1925.

FORESTRY AT THE BRACKET H RANCH

By Jno. D. Guthrie, D-6

On the Chelan Forest is an outdoor school called the Bracket H Ranch, where some 40 boys learn to ride, camp, and generally take care of themselves in the outdoors. Such an idea for a school has been followed in many parts of the West. It remained for Junior Forester Maclay of the Chelan to utilize this school in the organization of a Junior Forest League. He spent two days with the boys in August. The first day the boys were given practical instruction in forestry in various phases, special emphasis being placed on care with fire. A safe, practical fireplace was built, of which a moving picture was made by one of the instructors. On the second day Maclay had each one of the boys build a safe camp fire. Three judges inspected each camp fire, grading it according to safe location, careful preparation and building, and putting out the fire. Only one boy out of the 40 failed to pass and five boys received grades of 100. All the boys who passed the test were allowed to take the oath of office in the League and received commissions, the forms of which are shown below. The boy who built the safest and most useful camp fire was presented with a Boy Scout ax. Supervisor Harris says the boys seemed to fall hard for the idea.

Here's a fine idea for other similar boys outdoor schools located near National Forests. It fits in with their system of training at such schools, it has the "clan" or "club" idea so dear to a boy's heart, and best of all it gets the boys started on the safe road through the forest.

The oath of office follows this form:

"OATH OF OFFICE FOR JUNIOR FOREST LEAGUE OF BRACKET H RANCH

I, ____________________, do solemnly swear to be careful with fire in the woods as well as elsewhere and to teach others to do likewise. I swear that I will build safe camp fires, be careful with matches and other fire while in the woods, and never under any circumstances leave a camp fire until it has been completely extinguished.

I further swear to obey the rules of the woods, to refrain from unnecessary marking of trees and signs, and to act at all times as a gentleman and scout of the Junior Forest League."

The commission, bearing a bright red seal in the lower left corner, and signed by the Junior Forester and the Supervisor, reads:

"Know ye that

JOHN DOE

has successfully passed the tests prescribed by the U. S. Forest Service at Okanogan, Washington, and is this day commissioned as

JUNIOR FOREST SCOUT

in the Junior Forest League of Bracket H Ranch.

____
(Date)

____
Forest Supervisor."

-------•-------

FIRE PREVENTION

By H. N. Wheeler, Washington

We have not gone too far in fire suppression; in fact, not far enough in some States. Activities in fire suppression, as suggested by Crosby Hoar, do have a material effect in fire prevention. But a point has now been reached, especially in most of the Northeastern States, where little further progress in suppression can be expected. In many townships fire engines are dispatched with great speed to the fire, and chemicals and water are used effectively. The local citizens get onto the fire line, the fire is extinguished, and the acreage burned is kept down to a minimum. This is all right for suppression but we must go further.

There are still thousands of fires starting, and the present big problem is to stop them before they start. The railroads still cause one-third to one-half of the fires in the Northeast. An item in a recent issue of the SERVICE BULLETIN tells how a careless section hand in burning over a railroad right of way, so as to prevent future fires, burned property worth $1,445.40. The company paid the claim. The railroad companies have to pay claims for fire whether started as this one was or by sparks from the engines. But does this deter them from starting more? Not always. Railroads can prevent fires from starting. If they will not take the necessary precautions they should be forced to do so. The law should be enforced in other cases too, but with the general public it is a matter of education. If we are really in earnest about this matter we can convince others. Let us see that forestry education, and especially the fire prevention feature of it, reaches every man, woman, and child in the United States.

-------#-------

WASHINGTON NOTES

Colonel Greeley has returned to Washington after a month's absence. Most of his time while away was spent in attending the hearings of the Subcommittee of the Senate Committee on Public Lands. These hearings have not yet been completed, but Mr. Sherman is now representing the Forest Service at the meetings.

- - - - - - -

American Forest Week Committee Will Hold Meeting: Pursuant to the decision reached by the committee on permanent organization, of which the Forester is chairman, a general meeting of the American Forest Week Committee will be held in Washington on September [illegible] and [illegible]. Honorable Frank O. Lowden of Illinois, Chairman of the General Forest Week Committee, will preside. About 25 men and women representing interested organizations are expected to be present. The meeting will consider ways and means of perpetuating American Forest Week, and the main discussion is expected to center around the plan submitted by Colonel Greeley's committee. This plan among other things calls for a permanent chairman, a board of directors representing diverse interests, an annual budget to be raised from as many diversified groups as possible, and a salaried executive staff which would be controlled by the board of directors and disconnected with any single organization.--M.H.

- - - - - - -

The Saturday Evening Post, in its September 19 issue, carries an interesting account of ups and downs in the life of a Forest Ranger's wife written by Will C. Barnes.

FOREST PRODUCTS LABORATORY

The Used Box Industry: A survey of the box industry shows that in certain sections of the country the used box industry is growing in importance. In New York City and Brooklyn there are about 140 dealers in secondhand containers. One dealer uses about six carloads of lumber each year just for recoopering used boxes. Dealers in secondhand boxes may also be found in other cities.

A recent report of the Wisconsin Immigration Commissioner shows that the used box business started 16 years ago is reaching large proportions in that State. In the larger cities of the State a regular business of collecting boxes has grown up and many merchants are regular purchasers of used boxes. One of the largest secondhand box industries in the State is located in Milwaukee.

Another example of the reuse of shipping containers is the practice of the Ford Motor Company, which has a box factory at the Highland Park plant devoted exclusively to salvaging lumber from boxes, barrels and crates and converting it into shipping containers. During January of this year, this factory turned out a total of 189,950 containers together with numerous specially shaped blocks and various small pieces all made from salvaged lumber.--F.J.C.

- - - - - - -

Large Class Attends Boxing and Crating Course: The largest class in boxing and crating that the Forest Products Laboratory can accommodate registered for the week of September 21. This class consisted of 20 men and was remarkable for the variety of firms represented. Eighteen concerns manufacturing or distributing 15 different lines sent men to the Laboratory for instruction in packing for shipment. The commodities represented include automobile jacks, wooden boxes, carborundum, candy and nuts, cream separators, dry batteries, filing cabinets, hardware, oil well supplies, sewing machines, show cases, soaps and extracts, steel tubes, and threshing machines.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Sawn Ties and Log Scale: Forest Assistant Sundling has made a mill scale or overrun study on the Santa Barbara Tie & Pole Company operation on the Carson in which the sole or principal product is sawn ties. Sundling's study shows that on the basis of 302 logs, from which the sole product was sawn ties, divided more or less equally between 7 x 9's, 7 x 8's and 6 x 8's, the board foot contents of the ties overran the log scale by 9.2%. The study further shows a wide variation in the per cent of the overrun or underrun, according to the size of the log. For instance, an overrun of 70 per cent is shown in 9-inch logs, and the great bulk of the overrun occurs in logs 12 inches and less in diameter, although there is a material overrun in 14-inch logs. The heaviest underrun, 27.5 per cent, occurs in 15-inch logs. The timber involved is mixed Engelmann spruce and corkbark fir. It is not to be assumed that similar results would be secured from yellow pine and Douglas fir timber of larger size. A factor in yellow pine which would probably militate against it and greatly decrease the tie production is the more prevalent interior rot.

- - - - - - -

Thinks Rangers Have Providence Scared: Buckskin Jernigan, a permittee on the Lincoln Forest, made the remark during the fire season: "Looks like the Lord is trying to dry up this country and then burn it up, but is afraid to begin burning for fear he will be arrested by them Forest Rangers."

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

District 4 Sums Up Grazing Situation: The hearings before the Senate subcommittee are valuable, not only as guides for the subcommittee itself, but also for the Forest Service, says Colonel Greeley, who was recently in Ogden. He states that he is attending these hearings in the role of an investigator himself, with the idea of learning exactly what the stockmen find to oppose in the Forest Service policies and what the true situation is between the stockman and the forest regulations. He finds there are, in general, three causes of complaint against the Forest Service. The first is the complaint of bureaucratic methods. This broadly condemning phrase may mean almost anything, but in the case of the grazing regulations it seems that the Forest Service appears to be enforcing regulations which are not essential to the management of the range resource, as in the matter of commensurate land, or arbitrarily postponing the dates of grazing seasons. Furthermore, the penalties for infractions of the grazing regulations appeal to the stockmen as being bureaucratic, since it is claimed the Service acts as prosecutor, judge, and jury in such cases.

Secondly, the question of range distribution is a cause for complaint. The old users, who are usually the larger stockmen, are lined up in opposition to further distribution and wish to have their rights defined by law so that they may be protected in future use of the range. They declare that cuts for distribution are economically unsound and are a form of socialism, tending to break up the efficiency of long established operations and that they are, in effect, confiscatory, in that they may make private investments in ranches and livestock unprofitable by reducing them to a size that does not fit in with the operations as originally developed. On the other hand, the small stockmen assert that they must have an opportunity to develop their enterprises up to a reasonable point. At the Salt Lake meetings, the Utah Farm Bureau upheld the general Service policy and were firm in their contention that the public welfare would best be served by connecting the use of the National Forest summer range with the development of farm lands in the valleys.

Third, there is general opposition to commercializing the forage and especially is there opposition to the range appraisal figures. The viewpoint originally developed in Nevada has gained apparent approval among the stockmen that the forage values of forest and public domain used for long periods in connection with ranches have become bound up in the private property values of the stockmen, even to the extent of appearing in tax assessments. To place a commercial valuation upon the forage is thus held to be a double tax. The stockmen are accordingly asking for fees set at the cost of administration or fees that will not "depreciate" the value of established ranches.

Colonel Greeley states as his personal belief that the Government should stabilize the stock industry on National Forest ranges as far as possible. The ten-year permits were a step in this direction, but he feels that we would be justified in going farther, and that legislation would be desirable which would recognize by law the fact that grazing is one of the major and permanent uses of the National Forests. Indeed, legal recognition might be given to the preference system. In carrying out such a program as this three things must certainly be met, however:

(1) That the use of the range must be properly adjusted to other uses of the National Forest lands - timber production, watershed protection, game preservation, and recreation.

(2) Arrangements must be made so that the door of opportunity will not be shut in the face of the new settler and small stockman. He must be met fairly and according to his real needs.

(3) The public must be met by the stockmen on the basis of fair compensation for the value of the forage. Colonel Greeley makes it clear that this does not necessarily mean the scale of fees built up by the Rachford report, nor is he particularly wedded to any scheme for determining what the fees should be; but they must not be so low as to amount to a subsidy for those using the National Forest ranges. The idea that they should be limited to the cost of administration cannot be justified.

There is room for a lot of agreement between the stockmen and the Forest Service. Greater stability can be given to the stock-raising industry without endangering the primary objectives of the Forest Service in the management of National Forest range and other resources.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

The Increment Borer as a "Side Arm": Away back in 1905 when I made my debut in the Forest Service on the good old Battlement Forest in western Colorado, no Forest officer was fully equipped for duty without a trusty Colt's 44 on his hip. Times and customs have changed since "them days." Forest officers have discarded the six-gun, and even the cowboy Stetson is becoming rare (except in D-5). As a substitute for the Colt, let's take up the increment borer! One can get more real knowledge bearing on timber sale marking through the consistent use of this little "weapon" than by reading reams of text books on silviculture or circular letters on marking. While a timber marker cannot take the time to bore every tree on the area, he can take occasional cores from the "doubtful trees" and thus determine whether they are paying their board or not. He can also go back over old sale areas and ascertain what types of trees increase in growth after their neighbors have been cut. This is an aid to intelligent thinning in groups which we are beginning to practice on areas not logged by donkeys. Incidentally it will be found that pretty tough looking trees increase their growth rate 200 or 300 per cent a few years after thinning. The effect of wounds, disease, and accidents on all kinds of tree growth can be ascertained and filed away in the head for future use in marking work.

If you have much marking to do get your boss to order you a 10-inch borer from the Property Assistant, hang it on your belt in a little leather case, and start collecting "cores."--T.D.W.

-------:-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

A New Outlook: Supervisor Harris of the Chelan recently took a flight over his Forest. It gave him a new conception of the country he was responsible for and he has passed this on to his men in an impressive letter:

"Reference is made to the Blackberry Creek, Devore Creek, Canoe Creek, Billy Goat, Cabin Creek, Pyramid Creek, Goat Mountain and other fires that have been fought in inaccessible crags.

"It is our policy to fight every fire, hit it hard, and get the last spark. This costs a lot of money. Occasionally we ask ourselves 'Does it Pay?'

"My recent airplane trip was an eye-opener to me in that respect. Most of this Forest looked like a barren waste. The great areas of peaks, rocks, and barren slopes were magnified above the narrow bottoms and slopes of timber. Much of this barren area is probably due to fire which hits the upper slopes hardest, and is emphasized by the birds-eye view.

"It may be argued that timber in such places is not worth the cost of protection. Even if this were granted (and it is not) the constant encroachment of fires upon the lower slopes must be considered. For instance, take the Surprise, the Company Creek, and the Hidden Lakes fires, all of which started in such places and ran wild in spite of control measures. Take also almost any valley in your district and consider what fire in past years has done to its upper reaches, if not to its lower slopes, and the area or percentage burned.

"Getting an airplane view of this in the aggregate is certainly striking. I wish every man on the force could get it. His faith in the Forest Service policy would be strengthened; also his interest in protecting the young growth that is starting in the barren areas."

-------:-------

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 40. Washington, D. C. October 5, 1925.

NATIONAL PARK AND FOREST BOUNDARY ADJUSTMENTS

By L. F. Kneipp, Washington

During the past several years a number of proposals have been made to add to National Parks lands which were under National Forest administration. In some cases the merit of the proposals was at once evident; in others it was not so clear, as important material resources and economic considerations were involved. A number of the proposals, therefore, have been in somewhat of a state of suspended animation.

To promote final decision on the pending projects the President's Committee on Outdoor Recreation, which consists of the Secretaries of War, Labor, Commerce, Interior and Agriculture, by resolution adopted February 10, 1925, authorized the creation of what might be called a Coordinating Committee on National Parks and Forests. It is the function of this committee to pass in an advisory way upon controverted questions of land status which involve the interests of the Department of Agriculture and the Department of the Interior. The committee consists of the head of the National Park Service, the head of the Forest Service, and three other members. Mr. H. W. Temple, who represents the 25th Congressional District of Pennsylvania, is chairman of the committee. The other permanent members are Major William A. Welch, General Manager of the Palisade Interstate Park, Mr. Charles Sheldon of Washington, D. C., Mr. Mather, and Colonel Greeley. Mr. Arthur C. Ringland, Executive Secretary of the National Conference on Outdoor Recreation, is also Executive Secretary of the Committee. Mr. [illegible] of New York was appointed as Mr. Sheldon's alternate during the latter's unavoidable absence. Assistant Forester Kneipp served as Colonel Greeley's alternate in certain of the field examinations conducted by the Committee.

During the period from August 7 to September 8, the committee investigated in the field (1) proposed addition to the Yellowstone National Park of lands now in the Teton, Shoshone, and Madison National Forests; (2) proposed additions to the Grand Canyon National Park of lands now in the Kaibab and Tusayan National Forests; (3) proposed creation of the Cliff Cities National Park out of lands now in the Santa Fe National Forest; (4) proposed creation of the Denver or Mt. Evans National Park out of lands now in the Pike National Forest.

The committee reached unanimous agreement as to the changes which should be made in the boundaries of the Yellowstone and Grand Canyon National Parks. The inability of two members of the committee to continue the field examination precluded final decision as to the Cliff Cities project and the Mt. Evans project, but it is anticipated that agreement as to these projects will be reached at a meeting of the committee to be held in Washington in October.

In the case of the Yellowstone National Park, the committee approved boundary changes which will include in the Park the head of the Lamar River, now in the Shoshone National Forest, the heads of the Thorofare and Yellowstone rivers, now in the Teton National Forest, and the Teton Range, which will be a separate unit of the Park. On the other hand, certain lands on the drainage of the North Fork of the Shoshone River are approved for transfer to the Shoshone National Forest and the portions of the Park which lie east and south of the South Fork of the Snake River are approved for transfer to the Teton National Forest. The District Forester and the Superintendent of the Yellowstone National Park have been requested to determine whether certain adjustments should not be made in the west line of the Park whereby a better boundary between the Park and the Targhee and Madison Forests can be secured.

In the Grand Canyon National Park the committee approved a north boundary which will include in the Park approximately 45,000 acres of land now part of the Kaibab National Forest. This line places in the Park practically all of the direct drainage into the Colorado River, including the scenically interesting Thunder River drainage. It includes Little Park, which is very desirable as an entrance to the Park and as an administrative center for Park activities. The approved line will also allow the construction of the necessary road and trail system exclusively on National Park territory. The south boundary, as approved by the committee, will add to the Park approximately 6,975 acres of land now in the Tusayan National Forest, an arrangement whereby all important National Park roads will be upon National Park lands. On the other hand, about 3,500 acres now in the Park, but more valuable for grazing and timber production, will be transferred to the Tusayan National Forest.

The boundary adjustments described are regarded by the Forest Service as very happy solutions of long standing problems and justify the belief that in the further performance of its functions the Coordinating Committee on National Parks and Forests will render a very valuable service both to the public and to the two Departments to which its work most directly relates.

* * *

ALL OUT OF STEP

By R. D. Forbes, Southern Forest Exp. Sta.

Maybe "they're all out of step but Jim." But this "Honorable Mention" business once proposed in the BULLETIN and since talked of occasionally doesn't appeal to me at all.

Something over twenty years ago a man whom I have since learned to remember as one of the wisest and best threw a monkey wrench into the orderly workings of my highly conventional though still childish mind. He was principal of a little Quaker school in New York City, and I had just discovered that the school did not plan on giving us Thanksgiving Day as a holiday. Scandalized, I asked Mr. Rawson: "Why?" "Because, Reginald, thee should be thankful every day!"

If more of us who are in a position to see and appreciate jobs well done took the trouble to praise the doers then and there, there would be no need for this proposed imitation of military "citations." The friendly slap on the back, the appreciative "Good work, Bill!" or "That's the stuff, John!," or the more formal, though no less cordial, letter of praise, are worth a dozen Honorable Mentions six weeks later, in this everyday business of living and working. The Forest officer who is appreciative every day of the good work of those under him, and who takes the trouble to say so, is apt to be a real leader of men. There is precious little leadership in waking up perhaps once a year and suggesting a "citation" to the Forester. Particularly since the SERVICE BULLETIN already presents an entirely satisfactory medium for letting the entire Forest Service know of any conspicuous instance of devotion to duty, gallantry, or efficiency.

The Forest Service is suffering from a temporary attack of the current ridiculous American desire for organization. We Americans are no longer content to be patriotic in our hearts - reverent of national ideals, observant of national law. We must needs rush off and join some society that is "100% American," wave the flag, ride in the parade - and then drop in on our favorite bootlegger to get a little unconstitutional hooch. We are no longer content to be genuinely friendly with our neighbor and quietly considerate of those with whom we do business. We must join an International Association for the Promotion of Business Good Will; we then call fellow members by their first names, whether we know their last names or not, we pay a fine if we fail to attend 52 Association luncheons a year, and we wear a button, neat but not gaudy, in our lapel.

This fever for outward forms and promotion of esprit de corps by mechanical measures is seen in the Forest Service today by an aping of military organization. Although most of us hate war with a bitter hatred, and find in military ideas and ideals everything that is demoralizing, we unconsciously travel this road when we don uniforms, advocate service stripes, and propose "citations."

I am comparatively young in the Forest Service. I can shake no hoary locks and say that "'twas not thus in the good old days!" It is my belief that we have long had, and still have, the finest bunch of men and women in the Government service. But I do not think that even such an organization is [illegible] that spirit which would substitute formal and inadequate citations for the daily word of appreciation and encouragement; which would [illegible] into a uniform by clothing us all alike in place of firing us by common ideals; and which would recognize long and faithful service by chevrons and gold braid instead of rewarding it by spontaneous respect, increased freedom of individual action, and higher figures on the monthly pay check.

-------- --------

WASHINGTON NOTES

The Fire Season is Practically Over in the Western Districts: In the Northwest there have been [illegible] Forests. District 1 reports everything safe except the Kaniksu, where there is still considerable fire danger. In District 6 the fire season is about over and airplane service has been discontinued. Northern California is also safe, and there is only slight danger in the southern part of the State. There is [illegible] fire danger in the Black Hills and Lake States. In the East the drought has been broken in most places by showers, although it is still very dry in Arkansas and Georgia.--J.C.K.

- - - - - - - -

Forest Fires to be Featured in Motion Picture: The David Hartford Productions, Detroit, just submitted to this office a scenario entitled "Then Came the Women," in which forest fires play an important part.

This company proposes to show "close-up" shots of our fire signs and to bring out in the story the calamity which results from disregard of such warnings. Several of our best signs have been submitted to them, and perhaps some time in the not too distant future we will see the Red Wolf glare forth from the silver screen.

- - - - - - -

Mr. Kneipp has returned to Washington after a five weeks' trip, the primary purpose of which was to serve as Colonel Greeley's substitute on the Coordinating Committee on National Parks and Forests. This committee was engaged in a field study of proposed boundary adjustments of the Grand Canyon National Park and of proposals for the creation of the Cliff Cities National Park, embracing part of the Santa Fe Forest, and the Denver or Mt. Evans National Park, embracing part of the Pike National Forest. At the conclusion of this work Mr. Kneipp visited the headquarters of the Pike, Ozark, and Arkansas National Forests and made a brief trip over that part of the Arkansas which has been proposed for inclusion in the Mena National Park.

------- -------

FOREST EXPERIMENT STATIONS

Conservative [illegible] Lumber Companies: Of special interest in the private forestry movement in the Pacific Northwest are two announcements now appearing in the trade journals.

First, that the Long-Bell Lumber Company plans to reforest annually its 3,000 or 4,000 acres of logged-off land in Washington, and apparently plans to use artificial reforestation partly and will establish a nursery at Ryderwood for this purpose. They also announce their intention of cutting snags and putting in an effective fire protective system on the cut overs. Planting alders and other broadleaf trees in strips for firebreaks is also proposed.

Second. A group of big lumber companies in western Washington have engaged [illegible] of the Western Forestry and Conservation Association to examine their logged lands - some 400,000 acres - with a view to reporting upon the best use and treatment of these lands. A regional examination this fall will be followed by more detailed study and prescription for individual holdings as desired. Cooperation by the Pacific Northwest Forest Experiment Station in this forward-looking enterprise has been [illegible].

- - - - - - -

Query of Editor: Some Stations establish sample quadrats and some quadrates. Which should we do? Webster says a quadrat is either "a block of type" or "an old instrument used for taking altitudes," yet a recent Carnegie Institution Report talks about quadrats of vegetation which are studied in ecology.--T.T.M.

The answer is that Noah appears to have been nodding. The New Standard and the old Century both list "quadrat" as a term used in phytogeography to signify a square plot laid out for experimental purposes. The Carnegie Institution thus has ample authority for this use of the term.--Research Ed.

DISTRICT 3 - SOUTHWESTERN DISTRICT

New Mexico Agricultural College Will Study Range Cattle Production: According to Fabian Garcia, Director of the New Mexico Experiment Station at the New Mexico State College, funds have been provided through the new Purnell Law for conducting studies of the economics of range cattle production. The research will attempt to ascertain the factors which make for successful range cattle management and the actual cost of maintaining a cow and calf in the different parts of the State. A study of supplemental feeding of range cattle during periods of drought will be carried out on a part of the Jornado Range Reserve.

- - - - - - -

Court Opened with "Hear Ye! Hear Ye!" Ranger Laney of the Manzano recently prosecuted two wood trespassers before the "Juez de Paz" in a native settlement on the east side of the Manzano Mountains. Court was convened with great formality, being called by the court crier with "Hear ye! Hear ye! Court is about to convene," or something like that and proceeded, according to Mr. Laney very much according to law. The trial was entirely in Spanish except for an occasional interpolation of English, when the prosecuting ranger was unable to locate in his Spanish vocabulary the exact and precise word he wished to put before the Court.

DISTRICT 4 - INTERMOUNTAIN DISTRICT

A Monkey Wrench is Thrown: The plans for hunting on the Kaibab Forest have met with sudden upheaval following a telegram received from State Game Warden Willard of Arizona. It contains the information that following a conference the Governor of Arizona has directed an executive order to the State Game Warden directing him to enforce the game laws of Arizona regarding licenses, open seasons, etc., in regard to the deer on the Kaibab Forest. The game laws of Arizona provide for an open season of one month (October) for deer, and specify that only one buck may be taken by any hunter during this period. The non-resident license fee is $20 in Arizona.

It is possible that the situation may not be as serious as it appears on the surface. While it is clear that if these provisions of the Arizona law are put into effect, it would cut down the hunting on the Kaibab to such a point that the requisite number of animals would not be removed, the State game laws of Arizona give the warden extraordinary powers under certain emergencies. If game or birds increase to a point where a reduction in their numbers appears advisable, the State Game Warden is authorized by law to specify when and by what means these numbers may be reduced. This phrase doubtless requires legal interpretation to tell exactly what it may mean with regard to the Kaibab deer. However, it offers an opening for an adjustment of the situation.

- - - - - - -

An Unusual Way to Fight Fire: Fred Call, 19 years of age, a fire guard on the [illegible] Forest, had an unusual experience in fire work during the past summer. He was stationed on a district where every lightning storm resulted in several forest fires. On one occasion, lightning set fire to a yellow pine tree, 42 inches in diameter. This tree happened to be hollow and Call was unable to get to the blaze, even after he had chopped the tree down. He then sharpened a case knife and with that and his shovel crawled inside the hollow tree. When he reached the fire he chipped the sparks out with his knife and crawled back out with the sparks in his shovel. He made many trips into the tree. In all he crawled about 30 feet into the tree. However, he accomplished his purpose and extinguished the fire.

DISTRICT 5 - CALIFORNIA DISTRICT

Auto Supply Company Features Fire Prevention: The Western Auto Supply Company with headquarters at Los Angeles, in cooperation with the Forest Service, featured during the period July 30 to August 18, in all of its 126 stores west of Denver a prevent-forest-fire display calling public attention to the need of care with fire in order to conserve our forests. Various auto and camping accessories which aid in putting the desire to help prevent fires into direct use were shown. In addition to the window display, mats and publicity were also released to 100 western newspapers.

This is just another instance of the splendid cooperation given by big business organizations in California in our educational campaign to stop man-caused fires.

- - - - - - -

Air Beds: One hundred blankets for fire fighters were recently sent by airplane from Mather Field, Sacramento, to the Big Tujunga near Pasadena on the Angeles, a distance of 450 miles, in four hours.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Booth-Kelly Changes Cutting Policy: For some years the Booth-Kelly Lumber Company on its [illegible] operation near Wendling, Oregon, has been cutting its lands absolutely clean, baby trees, snags and all. This was fine from the fire protection point of view but involved the cutting of a great many worthless trees that would have been desirable as seed producers if left standing. Recently a change of policy has been put into effect and [illegible] [illegible] A. [illegible], research officer of the Western Forestry and Conservation Association and consulting forester for this company, [illegible] [illegible]. The [illegible] trees are now left standing. What effect this will have on the cost of logging, on fire prevention, and reforestation the company does not yet know. Unfortunately, some snags are also left standing.

- - - - - - -

The Grading for the New Railroad from Burns to Seneca in the big Herrick yellow pine sale on the Malheur is now all under contract, the camps are rapidly becoming established and the work on many of the contracts is under way. A new $20,000 steam shovel began operations last Monday on the Poison Creek grade.

-------#-------

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 41. Washington, D. C. October 12, 1925.

AMERICAN FOREST WEEK COMMITTEE GETS BUSY

By W. B. Greeley

The American Forest Week Committee held its meeting in Washington on Monday, September [illegible]. Hon. Frank O. Lowden presided and 39 persons were present when the meeting was called to order. Considering the size of this group and the number who responded favorably to the letters of invitation but who could not be present at the meeting, it is believed that at least 100 organizations will participate actively in the 1926 American Forest Week.

The definite steps taken at the meeting were:

1. Adoption of a more permanent form of organization.

2. Selection of Hon. Frank O. Lowden as Chairman.

3. Selection of a Board of Directors composed of the Chairman, ex officio; Mrs. John D. Sherman, General Federation of Women's Clubs; O.M. Butler, American Forestry Association; Arthur Ringland, National Conference on Outdoor Recreation; Wilson Compton, National Lumber Manufacturers Association; R. S. Kellogg, National Forestry Program Committee; Elbert H. Baker, American Newspaper Publishers Association; Alton J. Hager, Order of Hoo-Hoo and Friends of the Forest; Robert Y. Stuart, Pennsylvania Department of Forests and Waters; and myself.

4. Selection of an Executive Committee composed of R. S. Kellogg, Chairman, Mrs. Sherman, Elbert H. Baker, Wilson Compton, and myself.

5. Selection of Arthur Ringland as Treasurer, Edgar F. Allen of the National Lumber Manufacturers Association as Managing Director, and Miller Hamilton of this office as Secretary. Mr. Allen and Mr. Hamilton filled these same positions last spring and are carrying on until the Board makes final arrangements.

6. Adoption of a financial program, the Executive Committee being charged with the task of raising funds from diversified sources as far as possible.

7. Agreement upon the principle of cooperation with Canada.

8. Authorization of the Board of Directors to choose the date of the 1926 week, with a date the latter part of April strongly favored.

9. Definition of eligibility to membership on the American Forest Week Committee. Membership on the committee is wide open to any organization interested in forestry and kindred subjects. It will carry no financial responsibility and all activities are on a voluntary basis, though acceptance of membership carries with it the definite assumption that the organization will give support to the Week in such ways as it can. Firms, corporations, and associations operated for profit are not eligible.

10. Decision to appoint State Committees and State Chairmen, a list of names to be furnished to Chairman Lowden from which State Chairmen are to be appointed.

As a result of the meeting on September 28 I believe we are in a much stronger position for the 1926 Week than we were for 1925. For one thing the Board of Directors represents diversified forestry interests and should command a large measure of public support and confidence. For another thing, the 1926 campaign should get under way much earlier than last year. I believe the prospects for 1926 are mighty good.

I TAKE MY PEN IN HAND

By L. C. Everard, Washington

"Is that the best you can do?"

"Sir, it is the maximum that can be accomplished."

As the advertisements say, what is wrong with this conversation?

It is in two languages. The question is asked in English; the answer is taken from a Forest Service bulletin.

Incredible as it may seem, this "maximum" language is [illegible] in Forest Service writings. And the Editor leaves most of it in. What would you have him do? He is an editor, not a translator.

When a Forest Service author prepares to write a bulletin he not only puts on a Prince Albert, he makes sure that it has the longest possible tail. An author noted among his associates for the rich and vigorous English of his conversation puts on his writing clothes and solemnly constructs this sentence: "The insignificant reduction of hazard accomplished by light burning is soon more than offset by increase of inflammable material created by burning." Not to be outdone in the production of "maximum" sentences, another Service author gives us this: "In order to take into consideration the several important observable factors which contribute to an accurate estimate of vigor, these might be combined into four thrift classes, or tree classes, which if used in marking would require the forester to mentally appraise each tree according to the following standards." Even a short sentence with a single simple idea is tortured by a third author into the fashionable "maximum" form thus: "The location of the mills is usually confined to the fringes of population."

This "maximum" language wearies the reader. It costs the Government money for extra typesetting. It slows up publication of the bulletins. It usually betrays hazy or incomplete thinking by the author and thus hinders his advance in his profession.

choose

Why is it that men who can and do speak clear and easy English/to hide their meaning in a fog of words when they write?

The mistaken notion that written English is a different language from spoken English is the cause of much of this "maximum" writing. Great care in choice of words and in accuracy of phraseology is desirable in writing, but the words should be easily understandable and the idiom should be the English idiom, the natural idiom of our speech. The surest way to develop a good style in writing is always to strive for the simple and the natural. The lighter the burden on the reader's attention, the greater the effect on his mind.

Even more important than simplicity and naturalness in diction is clearness of thought. It will probably shock many to be told that mental laziness is the greatest of all causes of poor writing in Government bulletins. Inability or unwillingness to think clearly, to think completely, and to think hard when writing spoils many a bulletin built on months or years of labor in the field or laboratory. Raw ideas are offered in place of the finished product. The author begrudges the labor of hammering the nugget of thought into shape. A clumsy sentence is almost invariably the product of a clumsy thought. On the other hand, care in subordinating the less important elements of thought, in giving the important ones their proper emphasis, and in leaving out words and phrases that add nothing to the sense usually insures clarity in the sentence and the paragraph. The remedy for most of our faults of writing is clear, hard, complete thinking.

TIMBER SALE RECEIPTS BREAK THE RECORD

By E. E. Carter, Washington

For the first time in the history of the Forest Service, timber sale receipts have exceeded a million dollars for a quarter-year. According to reports from the District Fiscal Agents, the timber sale receipts for the quarter ending September 30 were $1,081,695.43. This follows a similar breaking of all previous records by the last quarter of the fiscal year '25 (April-June, 1925) when $937,000 were taken in on account of sales.

Compared with July-September, 1924, the timber sale receipts for the quarter just ended increased by $312,298.04. One of the most gratifying things about this increase is that all Districts contributed to it, with the increases ranging from $150,000 for District 1 to $1,600 for District 2. The following table tells the story:

District	July-Sept. 1925	July-Sept. 1924	Increase
D-1	$233,268.09	$82,910.70	$150,357.39
D-2	102,038.78	100,377.64	1,661.14
D-3	48,155.92	35,838.91	12,317.01
D-4	49,381.11	42,716.02	6,665.09
D-5	293,551.79	275,659.94	17,891.85
D-6	270,564.15	172,086.01	98,478.14
D-7	52,955.48	33,839.27	19,116.21
D-8	31,780.11	25,968.90	5,811.21
	$1,081,[illegible].45 (1,081,695.43)	$769,397.39	$312,298.04

* * *

WASHINGTON NOTES

Changes in National Forest Boundaries: On September 30 the President signed new proclamations for the Santa Barbara, Angeles, San Bernardino, and Cleveland National Forests. The San Bernardino Forest, with headquarters at the city of that name, is made up of what was formerly the eastern part of the Angeles plus the San Jacinto Division of the Cleveland. The Angeles as now constituted comprises the western portion of the old Angeles plus a part of the southern end of the Santa Barbara. In drafting the new boundary for the Angeles National Forest a considerable area of privately owned lands formerly included along the southern boundary and greatly complicating the problem of fire protection has been eliminated.

* * *

Interest in Transcontinental Highway Still Keen: During the week State Senator Walton and Mr. Sam Agee of Silver City, New Mexico, accompanied by State Highway Engineer French, visited the Forester's office to urge early cooperation by the Forest Service in the construction of the so-called Black Range Road across the Gila National Forest from Hillsboro to San Lorenzo, New Mexico. This road, if constructed, would constitute a vital link in the projected Lee Highway, and from the Silver City point of view would have the merit of placing that enterprising little town on a transcontinental road. When this project was first proposed the plan contemplated that three-fifths of the cost would be paid from forest highway and development funds, but the local people are now so keen to have the road built that they propose to meet approximately three-fourths of the expenditure with State and county funds, the latter being derived by a 2-mill levy specifically authorized by law.

- - - - - - -

Mr. Carter left Washington several days ago to spend a month in the Lake States, mainly on the Superior and Minnesota National Forests. He expects to meet Assistant District Forester Sampson on the Minnesota and to study the timber sale and management policy to govern the development of the resources of that Forest. The Superior Forest by all accounts is about to come into its own as a first-class producing property after many years of waiting. From the Lake States Mr. Carter will go to the meeting of District Foresters and Assistant Foresters in Denver, and on his way back is planning to stop over on the Michigan Forest to inspect the planting work there. In an interview with the editor Mr. Carter freely predicted that Washington would win the World Series this year, and stated in his usual emphatic manner that he regretted keenly not being here to witness the victory.

- - - - - - -

Water-power Development versus Recreational Use: District 6 is quite perturbed over a pending application before the Federal Power Commission for a license to develop the water-power possibilities of Zig Zag Creek and the Salmon River in the Mount Hood National Forest. Because of its proximity to the city of Portland and its outstanding scenic attractions the area involved is rapidly being developed for recreational use, the present investment in resorts and summer homes amounting to approximately a fourth of a million dollars, with prospects for a very rapid enlargement. A diversion of the natural flow of the streams which would impair the recreational value of the area naturally is a matter of grave concern.

- - - - - - -

Dr. Austin Cary has started South to take up his winter's work preaching the gospel of forestry among the timberland owners of the Southeast. Dr. Cary goes particularly well fortified because of his six weeks' visit to the famous naval stores region in the Department of the Landes in France, where he studied the French methods of forest management and turpentine utilization.

-------- * --------

DISTRICT 1 - NORTHERN DISTRICT

Air Patrol Successful. Aerial forest fire patrol in District 1 was concluded on September 27 with the safe delivery at Rockwell Field, San Diego, California, of the three De Haviland planes used in the work.

The planes were flown four hundred hours on actual fire patrol, and the results of the season's work are gratifying. Forest Inspector Flint, who was directly in charge of the work, and several Supervisors on whose Forests the planes were most used, believe that the patrol was well worth what it cost, if viewed only from the standpoint of resources saved. It is believed that in addition to its direct value the season's work, largely experimental in character as it was, is also a contribution to progress in aviation and in forest protection. Flying for four hundred hours under all kinds of weather and atmospheric conditions and over the roughest of mountain country, often miles from a safe landing field, without any injury to men or equipment, is in itself an achievement that speaks very highly for the ability and skill of the three pilots and four mechanics who handled the work this season.

While the fire observation work was done principally by Mr. Flint, many Forest officers in District 1 made observation or reconnaissance flights over their territory, and found flying an agreeable and practical method of checking up on the condition of going fires and getting acquainted with the terrain. The pilots are enthusiastic in their endorsement of Forest officers as flying companions. It is hoped and expected that air patrol will be continued in District 1 next year.

- - - - - - -

A Large Order: Bids were offered October 1 for the purchase of over $40,000 worth of canned and dried foods for next year. Deliveries will be made about February 1. Prices are generally lower this year on this class of goods, which comprises only a minor part of what the District buys each year. It might be of interest to know that in District 1 more than 150,000 pounds of ham and bacon and 31,000 pounds of lard were purchased during the season just passed, which indicates the volume of supplies handled. Purchases are made not only for District 1, but for some Forests in District

6, as well as for other bureaus, including the Glacier Park Service, Land Office, Bureau of Animal Industry, Blister Rust Control and Indian Service, for use on work located in the vicinity of the warehouses. Most of the purchases are made direct, shipped in carload lots over land grant railways, and are handled through the Forest Service warehouses at Spokane and Missoula.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Railway Regards New Mexico Forests as Industrial Asset: The Rock Island Railway Company has issued a 700-page book called "Official Directory of Industries" which describes the towns and industrial opportunities in the territories served by the company's lines. Under the heading "The Forests of New Mexico" a full page is devoted to a discussion of the value to the State and industries of the six National Forests. Areas, timber stands, annual cut, grazing uses, recreation possibilities, influence on streamflow and irrigation, roads and trails, and the 25% school and road and the 10% road and trail funds all come in for mention. The article was prepared by Mr. August Wolf, Manager of the Gateway Club, El Paso, who obtained his facts from Circular 2[illegible], "The National Forests of New Mexico." There are references in other parts of the Directory to the New Mexico Forests article which would indicate that the company regards the National Forests as occupying an important place in the industrial prosperity of the State.

- - - - - - -

Senior Training Camp Opens: The Senior Training Camp was officially opened by District Forester Pooler, Monday, September 14, with 32 men in attendance. Though only two weeks of training was planned originally it was later decided to add another week, setting the closing of the Camp from September 26 to October 3. Studies for the seniors were confined to fire, forest management plans and grazing management plans.

- - - - - - -

The Boy Scout Does His Good Deed: Training of the boy scouts has apparently taken effect, according to the Santa Fe News Bulletin. Melvin Morris, a member of a local troop, drives a service car and while taking a dude party on a trip through the National Forest came upon a fire which had spread from an abandoned camp fire. The blaze had reached a diameter of about 100 feet and was being fanned by a fair wind. Melvin promptly stopped the car and got busy. His passengers objected, saying that the fire was all right, that it wasn't his business anyway, and that furthermore they had hired him to drive them and not fight fire. The boy nevertheless persisted in putting the fire out before going on with the car. A letter of appreciation has been written to Melvin by Secretary Jardine.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

The Everlasting Deer: Following an exchange of messages last week, the Kaibab deer situation seems to be settled for the time being at least, as Governor Hunt of Arizona insists upon the enforcement of the provisions of the Arizona game law in regard to deer on the Kaibab. This means that non-residents will have to pay a $20 license fee, and residents a $1.25 fee. Furthermore, this will allow the killing of one buck only. The season, instead of lasting two months, will be confined to the month of October, as provided by the Arizona laws. In addition to the State fees, the Forest Service will require a fee of $2.50 from each hunter, this fee being used to pay the extra expenses of the Forest Service in handling the hunting on the game preserve. It will probably prove insufficient to cover all these expenses, but the Forest Service is anxious to get as many animals as possible disposed of this fall and has placed the fee just as low as possible.

- - - - - - -

Fire: On August 14, Mr. Ezeriah Brown, a dry farmer on the La Sal, started a fire in some sagebrush to clear the land for plowing. The blaze soon became uncontrollable and raced like wildfire up the canyon, endangering crops and the Forest. Quick work on the part of Blanding citizens who saw the clouds of black smoke and rushed to the scene in autos saved the farmer's grain stacks from being burned. Mr. Brown said the fire consumed green brush, oak and trees just as quickly as though they were composed of gasoline, and in the twinkling of an eye the fire was a mad raging demon. Mr. Brown appeared before Justice Redd at Blanding and paid a fine for violating Sec. 8468 of the Compiled Laws of Utah which makes it a misdemeanor to negligently expose growing trees, shrubs or undergrowth standing on the public domain to danger and destruction by fire.

- - - - - - -

Wild Life in the Home: Recently, after a hard day's work, one of the old woodsmen on the Fishlake retired for the night and expected to get a good night's rest. About midnight he was awakened by a noise near his stove. After exploring the cooking utensils, etc., the intruder left by a small window that is just above the foot of the woodsman's bed. The woodsman thought it might be a cat and after he heard it leave went back to his peaceful slumber. At about the same hour the next night the intruder entered at the small window. This time he did not care to explore cooking utensils but was bent on seeing the old woodsman's face. The woodsman awakened quickly, pulled the covers over his head, and kicked violently. The intruder fell from the bed but came back immediately, straight for the head of the bed. The woodsman kicked with all his might but still hung onto the quilts. Finally the intruder decided he was not welcomed, so scampered out of the window. The woodsman lit the lamp and found 52 quills securely driven into his quilts left by Mr. Porcupine's visit.

-------- --------

DISTRICT 5 - CALIFORNIA DISTRICT

San Bernardino County [illegible] to Forestry Problems: San Bernardino County is moving rapidly to the forefront of all the agencies interested in fire protection and reforestation. A county board of forestry has been created and a county fire warden appointed to cooperate with the Forest Service. The appointee is M. A. Tuttle, previously with the Forest Service, and his desk is in the office of the Forest Supervisor of the San Bernardino Forest.

The county fathers also recently passed an ordinance prohibiting smoking within any forest or brush lands of the county and the ordinance is being strictly enforced.

The county is desirous of using a fine piece of land in Devils Canyon as a nursery site for the growing of trees which may later be transplanted to forest lands. The supervisors appear to be willing to finance the start of such work provided they can get expert advice from the State and Federal Government. Eventually it is the hope of the county to employ a county forester.—P.G.R.

- - - - - - -

[illegible] Artist on Shasta Forest: [illegible] Shasta reports [illegible] Peck. Peck is a brush hook artist. He cut the brush on three miles of trail, eight to ten feet wide, in July, and four miles in August. Myers writes in as follows:

"Four miles slashed in the month of August and trail crew of one man says he is about out of brush."

- - - - - - - -

DISTRICT 6 - NORTH PACIFIC DISTRICT

Reaching the Public: Ranger E. H. Gordon, of Dufur on the Mount Hood Forest, since Jan. 1, 1925, has had some twenty-five different Forest news notes in the local papers of his District, 20 in the Maupin Times, and Dufur Dispatch, and 5 in The Dalles Chronicle. They are short, live news items relating to work and plans of his District. Each appears under a special heading "FOREST NEWS." He not only gives the movements of Forest officers but tacks on the reason for inspections, for guard training camps, etc. In a recent issue of the Dufur Dispatch he gave the line-up of lookouts and patrolmen, by names and location, for his District. This is all very good, in that it shows what is being done on that District, why it is being done, and who is doing it. The fact that the editors use it shows that they consider it good stuff.

- - - - - - - -

Use of the Morse Code in Fire Fighting: When Walter Metcalf and two other men from the Chewach road camp on the Chelan found themselves hard pressed to hold an 13-acre fire on Disaster Creek they signalled an S.O.S. to the 20-Mile lookout by using a polished lard pail cover to flash the signals in the Morse code. The lookout then signalled back to them that help was on the way. Reinforcements had been started an hour before their message was received.

- - - - - - - -

Fromme's Wild Life: Supervisor Fromme of the Olympic Forest was a star attraction at the Washington Sportsmens Show at Seattle in July with his young performing wild cat. Fromme said its name was "Melba Golf Lynx." Asked by an inquisitive lady fair patron "How Come," R.L. replied: "Melba," because of the way it sings; "Golf" 'cause you need a golf club to handle it; and "Lynx" 'cause that's what it is."

- - - - - - - -

Service Bulletin

U.S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 42. Washington, D. C. October 19, 1925.

THE 1925 AERIAL FIRE CONTROL

By Joseph C. Kircher, Washington

An appropriation of $50,000 for aerial fire control for the present fiscal year has again made this work possible. It was undertaken this summer in Districts 1, 5, and 6. In contrast to past years, however, the cooperation of the Army extended only to loaning planes and other equipment and detailing one officer to take charge of the patrol. No other Army aviators were detailed. Instead, pilots and mechanics were employed directly by the Forest Service, pilots being recruited from reserve officers. Nine planes with the necessary pilots and mechanics were assigned to the work. They were stationed at Mather Field and Griffith Park (near Glendale, California) for District 5; Eugene, Oregon, and Vancouver, Washington, for District 6; and Spokane for District 1.

In District 5 the patrol this year was conducted on lines radically different from those of the previous season. Instead of flying regular patrols over given areas, the method used was to hold planes in readiness at all bases and sub-bases to fly at the call of various Forest units or protective agencies. A Forest officer was stationed at Mather Field to act as liaison officer and as observer. Services from this field were given to all of the timbered forests. The other base located at Griffith Park, to which only one plane was assigned, was used for the four southern Forests.

Ordinarily a Forest would call for plane service either to observe a going fire or to detect possible fires immediately after a lightning storm. In one instance on the Klamath, periodic patrol was made in connection with an effort to control an incendiary outbreak. The best results were generally obtained by using as observer a local Forest officer who had had previous experience in air patrol work. Frequent calls were made for the liaison officer to act as observer. On the whole, work was very satisfactory.

In District 6 two patrol bases were established during the first week in July. No regular patrols were made. After a sufficient number of reconnaissance flights had been made to allow the pilots to become acquainted with their territory, the planes were held for reconnaissance of large fires, confirmation of reports of fires on which it might be difficult to get reliable information from other sources, and flights after lightning storms and when the atmosphere was too smoky for good detection from lookouts. Toward the end of July one of the planes was transferred to Spokane to assist District 1, and it remained there during the rest of the season.

Because of unfavorable atmospheric conditions, some reluctance on the part of Forest officers to fly, and possibly restrictions set forth in the letter announcing the rules for the use of the planes, only 26 flights were made from Eugene. Of these, six were at the instance of Forest officers, nine at the instance of State officers, and the rest were reconnaissance flights. The same conditions prevailed at the Vancouver base, the total flights being 16. Five of these were for Forest officers, three for State officers, and eight for reconnaissance and miscellaneous purposes.

In District 1 two planes with pilots and three mechanics were originally assigned to the work. Later another plane with pilot and mechanic was added. Spokane was used as the base. No regular patrols were made but the planes were held subject to call and were used in much the same manner as in the other Districts. The main use, however, was to supplement the ground lookouts, especially when smoke was thick and after lightning storms.

In District 6 the planes were not used a great deal. There were only 142 flying hours during which 178 old fires were observed and 44 new ones were discovered. The record does not show how many of these were reported before the ground lookouts caught them. The District feels that it did not get its money's worth from the planes, and that if the same amount of money could have been allotted for other fire purposes it could have been used to better advantage.

In District 1 the planes made 83 flights, reported 12 fires ahead of the ground lookouts, and scouted 66 fires. During the entire season in which there were 400 flying hours, not a single mishap of any consequence occurred. The planes dropped 150 messages of which only two were not picked up promptly. The experience of the District shows plainly that there is need of trained observers. A man to make a good observer must be thoroughly at home in a plane, must know the fire game, and must be able to read maps sufficiently well to locate fires which he sees. There is need for developing such men. Probably one or two observers should be trained and then do most of the observing. On the whole the District feels that it has secured a good deal of advantage from the planes.

District 5 is very enthusiastic about the aerial fire patrol as handled this year. The use of airplanes for securing information in the control of large going fires is now accepted by it as essential. The outstanding instances where such use has been made of the planes this year was in the handling of large fires on the Santa Barbara and on the Sierra. A new use of airplanes developed this year was transporting material and dropping it where needed on the actual fire line.

The general concensus of opinion of the Districts seems to be that the airplane, as used this summer, opens many possibilities for helping secure better fire protection. Planes were used in District 5 for more purposes than in the other Districts and new uses for the planes were developed during the summer. There is every reason to believe that the airplane can be made a very useful thing in the control of forest fires.

THE LAST [illegible] KILLER

By H. C. Hilton, Medicine Bow

Now that the National Forests of Wyoming and elsewhere are being overrun with hunters in the hopeful pursuit of elk and deer, I am tempted to tell of the man hunt participated in by Executive Assistant Coughlin and other Forest officers during last December.

Frequently on Sunday, and immediately after church, Executive Assistant Coughlin of the Medicine Bow is accustomed to hie himself to the Sheep Mountain country, lately designated a Federal game refuge and addition to the Medicine Bow National Forest. Whether this is for the purpose of ruminating over Father Nicholson's sermons or to secure rest and a change from his frequent sparring matches with the branches of Operation and Accounts, is not certain. On December 2, Mr. Coughlin, when visiting that region, noticed a band of 67 elk from a distance of 250 yards. These elk are the increase from a carload liberated in the region in 1915. About sunset, when returning from a climb up the mountain and when passing near the band, he heard several shots. By the aid of binoculars, he saw one elk lying down, another wounded, and a third slowly following the main band, evidently hard hit. Two men were observed, one in dark clothing and one in tan clothing strolling down the ridge, evidently trying to get the wounded one. The men later returned and one proceeded to dress the elk while the other stood watch.

Mr. Coughlin, coasting down the hill in his car without lights or power to avoid observation, went into Laramie and secured the assistance of Deputy Game Warden McCullough, Junior Forester Harmon, and Ranger Williams. These men went out in an automobile on the Rocky Mountain highway feeling certain that the violators were Laramie men who would return on the highway. About 19 miles out they hailed a car, which refused to stop and whose license they obtained. The officers were certain they had the right car, as the men evidently recognized them and would not stop. An attempt was made to overtake the car, it being necessary to drive from 65-75 miles an hour to keep up with the fleeing game violators. En route to town the car ahead slowed up and one of the men shot at the front tire of the officers' machine, but luckily for the officers the bullet missed. Near Laramie they almost caught up with them when a car approaching from the other direction prevented full speed across a bridge. Previous to this several shots had been fired in the air in an attempt to halt them, to which they had paid no attention. Near the bridge, however, Mr. Coughlin attempted to jump from his car to the running board of the other car but was jarred off by the swerving momentum of his own car. Fortunately, however, he received no injuries. After reaching the streets of Laramie the game violators again opened fire on the pursuing car, after which Ranger Williams fired in an attempt to pierce their gas tank, which he did, but too high to stop the car. The car then gave the officers the slip, but after ascertaining who the owner of the car was the game warden laid in wait at his residence, and later apprehended them, but not until they had disposed of the elk meat. When they learned that they had fired on a car containing State and Federal officers they were rather concerned but apparently did not fear the game laws. When Mr. Coughlin informed them that he would not press the charge of shooting at Federal officers (which he could not have done anyway as there is no law protecting Forest officers) they agreed to plead guilty to killing the elk. Later they were fined $200 each in the justice court.

No happening of late years in Laramie has caused so much comment as this case, not even the oil strike or recent platinum excitement. The local daily paper carried four big stories in as many days, including an editorial voicing indignation at men who would in such a cowardly manner shoot into a half domesticated band of elk and slaughter three cows, each of which would have borne a calf in the spring. Even the Denver Post carried two red-ink stories on the occurrence. The people of Laramie were so much concerned that business at the Forest office was almost at a standstill for a week while officers answered the telephone and talked with callers. The men convicted were members of the local sportsmen's club, which immediately called for their resignations. While the killing is much regretted, two things are certain; one, that the frequent publicity given to the question of game protection by the Forest Service in local papers has had a large effect in crystallising public sentiment on this question; two, that no occurrence in recent years has done as much as this will do in assisting the proper observance of the game laws, both in the Forest and upon outside game fields.

-------#-------

WASHINGTON NOTES

An Old Guard Dies - Without Surrendering: Captain Jerome B. Satterlee died in Washington, D. C., October 9 at the age of 87 years. His death marks the termination of a long career of loyal and faithful service to a Government and a cause that the Captain cherished to the very end.

The Captain fought through the Civil War, at Chancellorsville, at Gettysburg, and on many other bloody fields. But the true test of his moral courage came in his later years when he stood before Commissioners of the General Land Office and in defiance of the representatives of politically and financially powerful interests fought against proposals which would have defeated the conservation movement and destroyed or despoiled the National Forests. Frequently it was a lone fight, with the odds all against him, and sometimes the Captain was compelled to yield to overwhelming odds, but he never wavered. It is certain that when both the Captain and the National Forests were transferred to the Forest Service in 1905, the integrity of the system of Forests had largely been preserved by his guardianship. During the trying period when Filbert Roth was endeavoring to create an adequate system of National Forests, Captain Satterlee was his sincere coworker and supporter. Dr. Roth once summarized the Captain's services by the terse statement, "There was a man!"--
L.E.K.

- - - - - - -

Representative Will Go to International Forestry Congress: The Forest Service will probably send a delegate to the International Forestry Congress to be held in Rome next spring under the auspices of the International Institute of Agriculture. Besides world forest conditions, the congress will take up the question of establishing an international statistical bureau for collecting forest statistics.

- - - - - - -

Donald R. Bruce has left the Service temporarily to represent Mason & Stevens, forest engineers, in the eastern territory. Bruce will return to the fold from time to time to help us out in those flights of higher mathematics which now seem an essential part of the once simple and unsophisticated volume and yield table, and which make one believe that Einstein might have made a good mensurationist if he hadn't quit school too young.

- - - - - - -

DISTRICT 1 - NORTHERN DISTRICT

Slash Disposal A La Mode: Broadcast burning a large area of heavy slash during a dry period when it is situated within a timber-sale area is an unusual and a difficult proposition. However, such a job was done this fall on the Blackfoot by using up-to-date fire-fighting tools. The timber was clean cut over an area to be flooded to provide increased water storage in connection with a logging operation, for use both in driving and holding logs. It was therefore desirable that the slash be burned as clean as possible. Adjacent to the seventy-two acres of slash the sale area had been cut over and the brush piled, ready for burning whenever the weather conditions would permit.

When the area became very dry, during September, a fire trench was constructed along the edge of the slashed area with a plow and one of the graders which have been so successfully used on trail work. With two seventy-pound power fire pumps and a good supply of one and one-half inch hose ready, the fire works were started. An ample number of gate valves were cut into the hose lines so that water from both pumps could be quickly concentrated at any point on the area. Most of the time the operation had the appearance, and certainly most of the action, of a stiff job of fire fighting. With the large volume of water available, however, it was comparatively easy to prevent any spread of the fire beyond the trench, and a clean burn was secured.

- - - - - - -

Timber Protective Associations Meet: The annual fall meetings of the five North Idaho Timber Protective Associations and the North Idaho Forestry Association were held in Spokane on September 21 and 22. In addition to the officers and members of the associations, the meetings were attended by Messrs. Allen, Jacobson and Chapler from Portland, the State Forester and Assistant State Forester of Idaho, and several members of the Forest Service.

Reports covering the activities of the associations during the past fire season received most attention. While the number of fires has been greater than in average years, due to the many lightning fires, and conditions have been generally unfavorable, the losses have been kept within reasonable bounds. Preliminary figures on the cost of the protection for the season indicated that the assessments would run from ten to sixteen cents per acre for the membership acreage. In some associations part of this amount will be returned through collections from delinquent and nonmembership acreage, in accordance with the compulsory patrol law.

There was considerable discussion regarding methods to be followed and organization problems in connection with the disposal of brush resulting from lumbering operations on private land, as required by the new Idaho forestry law. Considerable difference of opinion developed as to the wage scale which should be paid for men employed on brush disposal work. It was generally agreed that next season the rate should be the same as that paid to swampers, although this season it is generally higher.

* * *

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Mr. Peck and Mr. Hatton attended the Hearings of the Senate Subcommittee in Wyoming and Colorado and were, on the whole, gratified at the testimony given by different witnesses. The complaints presented were all familiar to the District and could be answered from the standpoint of Service policy. The testimony showed that the grazing fee question and matters of tenure, stability, and reduction on transfers have furnished the principal basis for any complaints, and as far as the District is concerned, there has been very little presented which had any reference to arbitrary or bureaucratic methods on the part of the personnel of the District. This last was a matter of considerable comment on the part of those who attended the meetings.

* * *

She Had Speed! "The stenographer we require," ran the ad, "must be fast, absolutely accurate, and must have human intelligence. If you are not a crackerjack, don't bother us." One of the answerers wrote that she noted their requirements and went on: "Your advertisement appeals to me strongly - stronger than prepared mustard - as I have searched Europe, Airope, Irope and Hoboken in quest of some one who could use my talents to advantage. When it comes to this chinmusic proposition, I have never found man, woman or dictaphone who could get first base on me, either fancy or catch-as-catch can. I write shorthand so fast that I have to use a specially prepared pencil with a platinum point and a water cooling attachment, a note pad made of asbestos, ruled with sulphuric acid and stitched with catgut. I run with my cut-out open at all speeds, and am, in fact, a guaranteed double hydraulic welded, drop-forged and oil-tempered specimen of human lightning on a perfect thirty-six frame, ground to one-thousandth of an inch. If you would avail yourself of the opportunity of a lifetime, wire me, but unless you are fully prepared to pay the tariff for such service, don't bother me, as I am so nervous I can't stand still long enough to have my dresses fitted." She got the job.

* * *

Supervisors' Meeting: A Supervisors' field meeting will be held at Custer, South Dakota, for ten days beginning October 15. This will be restricted to Supervisors and a limited number of District office men. The program provides for spending a great amount of time actually in the field.

* * *

DISTRICT 3 - SOUTHWESTERN DISTRICT

Exhibit Panels Completed: The District has had need for a long time for a light, portable exhibit, which could be shipped readily, for use at county fairs and conventions and at the same time furnish a creditable exhibit, representative of the work of the Service. Such an exhibit has been completed and was displayed at the Agricultural and Industrial Show in Albuquerque, September 24, 25 and 26. The exhibit consists of four panels 4' x 5' mounted on double hinges so that they fold and form their own shipping case, the whole weighing about two hundred pounds. It requires no extra parts and is complete and ready to be set up when received. On the panels enlarged photographs have been mounted illustrating Protection, Forest Management, Grazing and Lands. The Protection panel represents the "Good-Luck Cooking Hole," The Forest Management panel the fundamentals of forestry, Grazing, good and bad use of range and lands, the use of the forest for recreation, illustrating the types and kinds of uses. The demand for this exhibit has been so great that if may be necessary to prepare a second one with a somewhat similar display of pictures. Furthermore, the panels are inexpensive, cost complete being $36.00.

- - - - - - -

The Spirit That Wins: Ranger Baldwin of the Sitgreaves National Forest was severely bruised in a horse and rope mix-up. In spite of being almost unable to "get up when down" or "get down when up" due to cracked ribs, etc., he responded to a fire call, drove to Promontory Butte Tower, climbed it, got a cross-reading and went to the fire by car and afoot. This is the spirit and grit that has "kept them little" on this Forest during all of the 1925 fire season.

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Fawns Safely Shipped: The first shipment of deer made from the Kaibab Forest included six fawns, two bucks and four does. They were sent to Otis C. Dunham at Beverly, Mass. They left Marysvale in excellent shape. The trip was long and hard, especially as the weather was rather warm at the time, and the buck and one doe were lost in transit. One of them died in Kansas and the other shortly after arrival in Mass. The other four appeared to have stood the trip well and are reported to be doing fine in their new home. Other shipments will doubtless be made soon, especially if the weather turns cooler.

- - - - - - -

[illegible] Surrounding Districts oftentimes look with pity upon [illegible] sagebrush and barren [illegible] perhaps there is more or less truth to the above caricature in spite of our own [illegible] long [illegible] all the Forests of South Dakota and western Wyoming. The third part of the trip was made in company with I. F. Eldredge of the Washington office, who was making an [illegible] trip in D-4 and C. P. Morse. Mr. Eldredge was not only [illegible] with the way that most of our timber sales were being handled, but he also said that the District had no need to be ashamed of its timber resources; its western yellow pine in particular is of mighty good quality and there is a good amount of it; we ought to push our timber sales more. It is good to hear something like this from an outsider, though of course we knew it all the time.

DISTRICT 5 - CALIFORNIA DISTRICT

Near Tragedy on the Modoc Forest: Assistant District Forester L.A.Barrett, while on a field trip on the Modoc Forest recently, literally and figuratively speaking, decided to "hit the hay" at the Happy Camp Ranger Station and thereby escape the pelting rain and hail. The barn "bedroom" was filled with fragrant hay which had been dumped in very loosely, with the result that anyone venturing thereon sank from sight. Now, Lou is built on rather heroic lines longitudinally, so that in this species of bed both ends of him were raised very much above the middle.

At daylight the next morning, a perfectly good Assistant District Forester was missing, but after some excavation, fore and aft ends of him were discovered, and finally the middle part, by District Ranger Cuff. A little more excavation on the part of the District Ranger also disclosed a shorter and chunkier forest officer underneath the aforesaid Assistant District Forester, somewhat crushed, but still breathing.

The famous black notebook carried by L.A.B. now contains the notation: "All outlying ranger station barns should be equipped with pitchforks."

- - - - - - -

[illegible] of Nature: A doe with forked horns was recently killed near Sierraville by W. D. Johnson. He made an affidavit of the circumstances and turned the deer over to Ranger Snider of the Tahoe Forest, who shipped the specimen to the University of California at Berkeley, where it is being preserved as a specimen in the Museum of Vertebrate Zoology.--J.W.H.

DISTRICT 6 - NORTH PACIFIC DISTRICT

When to Use Caps: In Forest Service writing, for the press or otherwise, the page fairly bristles with capital letters. In fact, some typists become so enthusiastic over pressing the shift key that the word forest always starts with a large F.

Our use of caps may be in correct style for our correspondence, or even for a high-brow magazine, but it doesn't suit the newspaper editor.

An editor in D-6 recently told a Supervisor that he liked our press releases, they were good stuff - but, wouldn't we let up on the caps a little? Over-capitalization slows up the editor's job, or the linotype, and makes trouble for them. This editor gave this Supervisor one of our releases as he had to edit it and in a 1½ page release there were [illegible] capitals where there shouldn't have been,- for a newspaper.

Of course, different papers have different styles, but our press releases are issued solely for the editors, and if they prefer them with only a modest number of capitals, why we're going to try hard to give them the stuff in the way they want it! So hereafter you'll know why when you see a press release refer to the forest service, national forest, forest supervisor, and even to the forester and the secretary of agriculture!

- - - - - - -

Caskey's Midnight Ride: Some day when one of his descendants has been elected to the vice presidency or some other equally famous position, the midnight ride of Kelly Caskey, Forest Guard on the Chelan Forest will become the basis for poetry and historical paragraphs. Last week Caskey pulled out from Spikeman Ranger Station at 9.00 p. m. for Loomis and left Loomis at 11.00 p. m., riding practically the entire night to be on a fire at the head of the S. Fk. of Toats Coulee by daylight. Incidentally this is State land.

Service Bulletin

U.S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 43. Washington, D. C. October 26, 1925.

HAPPY DAYS IN THE FOREST

Under the greenwood tree in these parts people used to find rest and consolation. They are more than fortunate nowadays if they do not discover an empty sardine tin, as well. For there is a plague abroad in the land, and sardine tins and blackened stumps are its more visible manifestations. Where yesterday was cool and deep, deep shade, and where a tired one might leave his weariness, is now quite frequently a land laid waste by sacrilege. Wherefore we are well pleased with the Forest Service which is dispensing fines most liberally. One may preach and preach, but in the end a fine is the more persuasive.

We read that a vigilant warden known as "Ferg" saw a lighted cigarette "snipe" - the word is Ferg's, not ours - describe a graceful arc from a passing automobile and come to rest in the wayside grasses, sere and brown and ready for [illegible]. [illegible] upon the evidence our bold warden gave chase and overhauled the car, which was driven by a woman. There were no passengers. She and she alone was the skipper, first mate, and crew of the vehicle. The outworn cigarette was indubitably hers. It was no time for chivalry, for it is by such an act as hers that forests are laid waste. We read, [illegible] thankfully, that "she pleaded guilty and was fined [illegible]."

Inspired by Cooper and the spirit of the wilderness, of the dim canyons where trout leap for infrequent gnats, of the great ridges that lift their plumed lances to the sun, another vacationist bethought himself of the fun he could have playing Indian. He would travel far and far from camp, and high on the mountain side he would kindle his signal fire. In the smoke code of the savage he would send back to his less romantic friends the comforting assurance that all was well with him. He did so. But all was not well. For a ranger played Natty Bumpo to his downfall, and the pseudo redskin was bereft of wampum in the amount of $100.

But this story we like best of all. It is so plentifully supplied with human interest, a quality for which all editors seek perpetually, and of which they dream, and which so infrequently makes its glimmering way into their columns. On Mill Creek was encamped a merry, merry company of vacationists. Ah, Mill Creek! There's the place. It's like walking into a cathedral where you are not expected to be grave, but gay, and where the broad aisles are suffused with such enchanted sunlight as leaded pane might never shed. The Mill Creek merrymakers camped there for quite a while because they liked the spot, and in testimony thereof they left great store of empty butter cartons, jagged tins, watermelon rinds, old newspapers, and a few bits of exceedingly passe wearing apparel. Those who came after them should know that others had enjoyed the sylvan charms of Mill Creek. Who should come along but Ranger Anderson, and he didn't enter into the spirit of the bequest, not for a minute. He said he was tired of playing chambermaid to careless campers, and he traced them into Prineville, as a beagle trails a rabbit, and brought them to bay. At his request they journeyed back to Mill Creek to the scene of those happier days, and cleaned camp. Just about perfect, isn't it?

Not your forest or mine, to do with as we please, to place in peril, to befoul, to desecrate, to destroy. It is our forest and we hold it in trust. If we forget that trust, which is altogether a solemn and considerable obligation, it is fitting that the gentlemen of the Forest Service -- who are agents - should remind us of our sins. It is fitting that we should be fined.--(Editorial by Ben Hur Lampman, in "Oregonian," Portland, Ore.)

RADIO IN A RANGER STATION
By E. D. Lemley, Santa Fe

I believe that it is a generally recognized fact that a large percentage of the turnover in our personnel among married rangers is due to dissatisfaction of that important member of the family - the wife.

This dissatisfaction is largely caused by the lack of suitable social connections - congenial neighbors, real music, lectures, churches, and schools.

A great deal of material has been written on this subject, some steps have been taken to relieve the situation by placing ranger stations in towns, but this fact still remains that because of the nature of our work most of us will have to remain in isolated parts of the country for at least years to come. We cannot handle forest fires, timber sales, grazing, etc., and live in town.

To those who are confronted with the problem, let me suggest that before you quit your job buy a radio receiving set. It will not cost you any more than a phonograph and it will go a long way toward solving your troubles by bringing you in contact with the outside world and supplying you with the entertainment which is so necessary to balance one's life.

Yes, a radio can be operated successfully in the most isolated places, as I will tell you later. It will bring to you lectures on most any subject, given by the leading men and women of the world, people that we could hardly expect to see even if we did live in town; music covering the entire range from the most tantalizing foot shaking jazz to the solemn and inspiring pipe organ so beautiful and perfect in harmony as to cause a mantle of peace and contentment to settle over you. It will bring to you full church services - the opening music, the prayers, the sermon. Yes, and you will also be given the privilege of sending your offering by mail. I have even heard a spiritualist meeting. To the Ranger himself, it will bring daily stock reports, latest news items, and weather reports.

To give you some idea of the conditions under which I operate my set, a slight description is necessary. I live forty miles from a store, seventeen miles from a post office, in what is known as Frijoles Canyon, the home of the ancient Cliff Dweller. The canyon itself is merely a narrow slash through a blanket of tufaceous rock, cut to a depth of almost five hundred feet and hardly one-half mile from rim to rim, with the side walls so steep and sheer that so far no attempt has been made to build a road into the bottom. Everything brought into the canyon must be packed on a horse's back down a winding trail almost a mile in length.

I operate my set on dry cells, three telephone batteries supply the necessary current. With four tubes, I have heard Medford Hills, Mass., and to the West Coast Los Angeles and Oakland, Calif. Chicago, Kansas City, Pittsburgh, and others are daily brought in. I might add that it takes no radio experience to put up and operate a receiving set. Until I got mine, I had never seen but one.

If you are thinking of quitting your job, hold off until you have at least tried the radio, and I believe that you will forget the bright lights of some little town.

OUR OWN VINES AND FIG TREES

By F. W. Cleator, D-6

It has occurred many times to the writer that we ought to be mighty careful everywhere about the looks of our ranger stations, but especially in recreation areas or along tourist roads. Not to be too critical, my memory of such stations indicates that in appearance they vary from about 95 per cent plus to about 17 per cent minus.

The average ranger station is, first, a place of business; second, a home; and each of these activities must be given a share of the ground, but they should not be too much mixed up.

While it is not well to be too hidebound, or too hard-boiled with regard to the landscape improvements, it is still a fact that a few general rules or suggestions are in order:

Use or leave native shrubbery and trees or an open green lawn for the front yard in view of the approaching public bent on business calls. Not all visitors enjoy the combination of domestic flowers, but very few can kick on native plants. Conversely, leave the back yard for the home activities, the kids' playground, swings, go-carts, clotheslines, flower and vegetable gardens. A hedge of natural shrubbery set not in too geometrical a pattern is good between the front and back yard.

Do not clean cut and slash burn the entire front yard. The reaction on buildings will be comparable to a familiar type of architecture in a fog. If there is some brush, reproduction, and trees in the front yard, consider it as a possible asset rather than an obstacle. Grouping of shrubbery and trees is better than scattered individuals or rows of things, since it is easier to take care of and looks much better. A few trimmed shade trees are all right, but go easy on trimming up native shrubbery and reproduction.

A dry rock wall veneering the sides of a road cut or fill near the station is a wonderful improvement, but cannot be set forth as one of those little minor jobs which take so little of the spare time of the F.C.

A large scale map or ground plan of the ranger station grounds, showing all buildings, pipelines, hen houses and other improvements, as well as trees and natural features, will help the ultimate beautification of the station, especially if hung up alongside the calendar in the office. And maybe some sensible visiting officer might be permitted to make local suggestions about the plan of landscape improvements, especially if he were to help do some of it.

"Plant thick, thin quick," is a landscaper's motto, and is probably a good one, provided the word "thin" is not mistaken for "trim." In any planting of native shrubbery, it is a good idea to plant heavily to ensure a good catch; then when established, thin out to give the remaining plants a good chance.

Late fall to early spring is the best time to do any planting, which system doesn't work out so badly with relation to other lines of work. But it is all real work, no trifling piffle for a winter evening or two. The main advantage of getting at any necessary planting soon is that when planted nature does most of the follow-up stuff - unlike scrubbing or painting the floor, which means that the next scrubbing or painting is set ahead that much earlier on the calendar.

* * *

WASHINGTON NOTES

The Henry S. Graves Redwood Grove: A beautiful 157-acre tract of primeval redwood forest a little south of Crescent City, in northern California, has become a part of the California State Park system through the gift of Mr. George Frederick Schwarz, a former member of the Forest Service, and the Save-the-Redwoods League. The formal dedication of the grove took place September 6, and at the suggestion of Mr. Schwarz it was named in honor of ex-Forester Graves, the Henry S. Graves Memorial Redwood Grove. Those of the Forest Service whose memories go back to the time when Fred Schwarz was one of us, and who still recall with pleasure his unassuming, companionable personality, will think of the grove as a double memorial, associating as it does the name of our former distinguished chief and the public-spirited generosity of an old-time friend and coworker in a common cause.--H...S.

* * *

Changes in Forest Management Personnel bring two former employees back to the Service.

A. B. Hastings, formerly Assistant State Forester of Virginia, has returned to take the place left vacant by C. R. Tillotson as inspector of Clarke-McNary law cooperation.

H. L. Baker also gave up his position as Assistant State Forester of North Carolina to reenter the Service. He will have charge of the investigations authorized by Section 1 of the Clarke-McNary law, concerning permanent and adequate protection for the different forest regions.

The experience which these men have had in State forestry work will be of great value to the Service.

* * *

The Society of American Foresters will hold its first fall meeting on Tuesday, October 27, at the Cosmos Club. Mr. Chris E. Rachford will address the meeting, his subject being "Sidelights on Grazing in the National Forests." Probably never before has grazing in the National Forests assumed such widespread attention as at this moment. A number of prominent guests have been invited.

- - - - - - -

Chief Engineer Norcross has Returned from a western trip of approximately eight weeks length. About one week was spent in Colorado in inspection of the road work. In Wyoming an inspection was made of the minor road work and of the Forest road plans and construction practices. The trip was extended to cover the Idaho portion of District 1. Mr. Norcross reports both a profitable and enjoyable trip.

FOREST EXPERIMENT STATIONS

On and Up!: On October 9 Assistant Silviculturist Willard R. Hine resigned from the staff of the Southern Forest Experiment Station to become State Forester of Louisiana. Mr. Hine came to the Southern Station upon graduation from the Forest School at Cornell, a little over four years ago. For the past two years he has been responsible for the highly important fire studies of the station, and in addition has been chiefly responsible for a number of projects in other lines, at Urania, Louisiana. Throughout his period of service he has been conspicuous for his enthusiastic and devoted work and we have come to regard his opinions on everything pertaining to the station work very highly. No member of the staff has traveled more widely in our territory, by every conveyance from Pullmans, Government Fords, to shank's mare (the latter in our early days when we were less prosperous than now).

Hine has made friends everywhere for the Service and for himself. We hate to see him go. Good luck, Billy!--R.D.F.

- - - - - - -

Thoughts from the Fire Line: One of the striking impressions of an experiment station man on the fire line for some weeks this summer is how little time is available for the man in charge of a fire camp, or for the man in charge of the whole fire, to give to weather forecasts, or to observations of the factors, meteorological or otherwise, which will influence the later behavior of the fire. Tools, bed rolls, mess equipment, the hiring and compensation of men, etc., have been brought to a high stage of development. An equally highly developed plan of action, however, seems to be lacking on the actual fire line. The Forest officer in charge of a camp or of a fire is so overloaded for 12 to 15 hours a day with the duties of the moment - placing and looking after his men, reconnoitering the fire, checking of the crew, attending to matters in camp, etc., that he cannot give thought to the factors which control the fire. Frequently he is so tied down that he cannot go far enough ahead of the end of his trench to ascertain what the fire is doing and thus plan future action such as would be influenced by the forest cover, topography, and so on. Perhaps an assistant to the man in charge is needed similar to a staff officer in military operations. Perhaps the men in the regular forest organization, whose duty it is to take charge of fires, need to be trained in the technique of handling situations of this sort. This is no criticism of our regular Forest officers. The Army maintains training schools not only for its enlisted personnel, but for its officers from the lowest to highest ranks.--[illegible]

DISTRICT 1 - NORTHERN DISTRICT

Lightning Fires Increase: Figures from the 10-day fire reports indicate the occurrence of 1259 lightning fires in the National Forests of District 1 during the past season. The figures are still subject to minor corrections, but are a safe indication of the status of 1925 as a lightning fire year. Only one season in eighteen years of record, 1920 with 1581 lightning fires, outclasses 1925 in this respect. The third largest number of lightning fires for any season was 835 in 1919. The annual average for seventeen years preceding 1925 was 446. The percentage of lightning fires in 1925 is higher than ever before, 80 per cent as compared to 75 per cent in 1920, and 37 per cent for the 17-year average. The number of man-caused fires was far below the average in both 1920 and 1925.

- - - - - - -

Fish Culture Station at Fort Keough: The old remount station at Fort Keough may be the scene of a new enterprise in Montana. Fort Keough at one time was the largest remount station in the West, and was located near Miles City, one of the largest horse markets in the world. It was recently transferred to the Department of Agriculture for a range-livestock experiment station. The area comprises approximately [illegible],000 acres, and a number of places have been found on this area that, with a small amount of work, can be converted into brood ponds ranging in size from 10 to 50 acres. Through the efforts of the Montana Sportsman's Association an examination of these areas was conducted by the Bureau of Fisheries. This report indicates that at a very small expense a number of ponds can be created which will be sufficient to produce large quantities of warm water fish for distribution in eastern Montana, North Dakota, Wyoming, Colorado, and Nebraska.

Mr. Sheets of the Bureau of Animal Industry has signified his willingness to cooperate with the Bureau of Fisheries in carrying on this project, and it is expected that in the near future a warm-water fish culture station will be established at this point which will take care of the needs in the States mentioned with reference to warm water fish. This is a project of considerable importance to the sportsmen of these States, and their ardent support and cooperation will go a long way toward insuring the completion of the project.

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

District Foresters' Meeting: A District Foresters' meeting will be held in Denver for two weeks beginning November 2. About eleven members of the Washington office and each District Forester and one member of his staff will attend.

- - - - - - - -

The Fair [illegible] is Over, in [illegible], with [illegible] of the U.S. [illegible], especially the Forest Service, [illegible], in the way of increased interest and understanding in the work presented.

[illegible] Forest Fire [illegible] was especially successful and is recommended to the Forest Service as an inexpensive effective exhibit. It can be purchased at [illegible] cost from the Scene-in-Action Corporation, Chicago, Illinois.

- - - - - - - -

DISTRICT 3 - SOUTHWESTERN DISTRICT

The Senior [illegible]: [illegible] brief stay at the Senior Training Camp, confined of necessity to the first three days of the [illegible], [illegible] that this camp is going to be as successful as was the Junior Camp. There is the same noticeable enthusiasm, eagerness to acquire new information, sociability, and [illegible] of the District [illegible] a splendid working team. Both camps are going to mean much to the District in the future and their benefits will many times exceed their cost in time, effort, and money.

The Juniors, before disbanding, passed the following resolution, which is [illegible] to attend one of the camps this year:

"We, the members of the Junior Ranger Training Camp of 1925, wish to express our appreciation of the opportunity afforded by the school for our personal betterment, and of the methods used in imparting that training. We believe that we have gained through this month of intensive instruction the knowledge and experience which our predecessors in the Service have taken years to acquire by practice, and the fact that this school has required a very great sacrifice on the part of the District organization invokes our heartfelt gratitude.

"We particularly wish to extend thanks to the administration officers of the school for their unfailing consideration of our personal comfort, and to the instructors who have given their time to the school.

"We feel deeply indebted to the District Forester and his organization and promise a reward in better and more efficient administration of the forest land entrusted to his care.

"Approved by unanimous vote of the Class, September 12, 1925."

Needless to say, I am delighted to be the recipient of such a resolution and am taking this means of acknowledging its receipt and of extending my thanks to the Juniors and their able squad leaders who so largely contributed to the success of the camp.--F.C.W.P.

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Not So Good: On the Browns Hole Division of the Fishlake, a portion of the high range on which there is a great amount of tall larkspur has been fenced in order to keep cattle from getting onto the poison area. Though this area is used by sheep and horses throughout the season, and by cattle after the danger of larkspur poisoning is past, the protection it has received over a period of ten years has resulted in an excellent stand of forage in which giant brome grass predominates.

Some passer-by, probably not familiar with all sides of the case, and seeing only the wonderful stand of grass growing there, blazed a space on a convenient aspen tree, and wrote thereon the following condemnation:

> "Aint the Forest Service done wonders. Worlds of grass, and
> no stock to eat it."

- - - - - - -

Progress of Deer Hunting: During the first ten days in October, 161 hunters were given licenses to shoot on the Kaibab Forest. One hundred and nine of these entered through the Ryan gateway and 52 through Kane. Of the first bunch, 67 were nonresidents and 42 residents of Arizona. Of the second, six were nonresidents and 46 were residents.

It is rumored that a hundred Navajo Indians from the Navajo Reservation in northern Arizona are going to hunt deer on the Kaibab.

--------#--------

DISTRICT 5 - CALIFORNIA DISTRICT

"On the Job": The Modoc claims the distinction of having a lookout man who has served for fourteen years on the most important lookout on the Forest.

From 1912 to 1925 Eli Dale has been on duty at the Happy Camp Mountain Lookout Station, and during all of this period Eli has been strictly "on the job" in every respect.

In addition to taking a keen interest in fire detection, and being punctual to the minute in his daily telephone reports, Eli keeps an immaculate station.

Can any other lookout in the Service match this all-around record?--L.A.B.

- - - - - - - -

[illegible] Early Times: Do you old-timers of the muzzle-loader-shotgun period remember when you were a boy you would sneak out the old shotgun and go hunting? You had saved your few dimes and nickels - there were no pennies then - to buy powder and shot, but wadding - you could not spend good money for it,- consisted of paper or rags. Do you remember that sometimes you could see the wadding burning after it had left the muzzle of the gun, provided the gun did not kick too hard? Do you ever wonder now how many fires were caused in those days by "wadding from sportsman's guns?" We probably will never know, but an item here and there in old newspapers and occasional mention of such occurrences in the reports and diaries of early friends of the forest show that the shotgun was one of the main causes of early forest fires. One newspaper, dated October 30, 1869, says: "A fire started by the discharge of a shotgun traveled 40 miles most of the way through heavy timber, consuming, of course, all fences and even houses and sawmills in its path." Another article dated as late as 1897 indicates that the "wadding from some sportsman's gun" was still a very busy destructive agent. The toll of wadding of the muzzle loaders during the long period of their use in California must have been enormous.--T.W.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Some Surprises in Elevations: The National Forests along the backbone of the Cascades in Oregon and Washington contain the highest peaks in either State. However, a list of the 25 highest peaks in each State discloses some surprises. For example, take Washington. Of the 25, only 4 are over 10,000 feet, 11 over 9,000, and none less than 8,300. In this list of 25 the Chelan leads with 12, the Wenatchee is second with 5, and Mount Baker third with 4. The Columbia has 2, and the Snoqualmie 1. The remaining peak is within a National Park. The Olympic and Colville do not appear.

Fifteen out of the 25 in Washington carry glaciers, and the Chelan again leads with 7 glacier peaks in the list, Mount Baker with 4, Columbia with 2, Snoqualmie with 1, and Rainier Park with 1. The glacier peaks of the Olympic Range do not appear because of less than 8,300 feet elevation, nor do several other glacier peaks on other Forests.

For Oregon there are more surprises. Of the 25 highest peaks, the Whitman has 9 and the Wallowa 5. Eastern Oregon carries away 14 out of 25! The Deschutes has 4, Cascade and Crater 2 each, Mount Hood 1 and Santiam 1; and 1 (Steens Mt.) is on the public domain. There are 5 peaks in Oregon over 10,000 (Washington has 4), 14 over 9,000 (Washington has 11), and none (in the list of 25 highest) below 8,500. Of the 25 highest Oregon peaks, 24 are within National Forests and one on the public domain.

Seven of Oregon's peaks have glaciers, the Deschutes having 2, and the following Forests one each; Mount Hood, Santiam, Cascade, Whitman and Wallowa.

- - - - - - -

Port Orford Cedar is bringing the top price in the lumber market at present. Two residents of West Lake, a town south of the Siuslaw River, have garnered a small fortune by gathering up 400,000 feet of cedar that was thrown up on the beach by the ocean. The logs escaped from the Coquille last November. All the men have to do is drag the logs over the sea wall into Siltcoos Lake, raft them, and deliver at Ada, a station on the Southern Pacific, from where they can be delivered to mills on Coos Bay.

-------#-------

DISTRICT 8 - ALASKA DISTRICT

Natural Refrigeration Used on the Chugach. In the matter of cold storage facilities, Mother Nature has been very generous to the Prince William Sound District of the Chugach, having scattered glaciers about with a lavish hand.

Shortly after the opening of the hunting season a bull moose was killed by a member of the timber survey party that operated on the Chugach for the past season. The meat was all packed out, and since facilities for keeping it aboard the boat were poor, some other method had to be devised.

At the time the party was working in a large fiord which supports many tidewater glaciers; so it was decided to use natural cold storage. Three of the quarters were landed at the base of [illegible] [illegible] glacier, to be cached until needed. A crevasse about 20 feet up on the face of the glacier afforded the most likely place for the cache. Steps were cut up the almost perpendicular ice front and the meat hauled up with a line. Ice was then caved down on the meat and covered with canvas. A few rocks were hauled up and placed on the canvas to keep it from blowing off and some more ice was then chopped down covering the canvas.

This natural "ice-box" gave excellent results and can be highly recommended. The [illegible] [illegible] feature was the fact that it was never necessary to [illegible] the ice-box.

-------- --------

The greatest memorial avenue of trees in the world is planted along 24 miles of highway at Nikko, Japan. The planting was begun in 1651 and completed in [illegible] years.

* * * * * * * * *

General Sherman, the big tree in the Sequoia National Park, is 279 feet high and 36½ feet in diameter. It is said that it was 2,000 years old when Jesus of Nazareth was born.

* * * * * * * * *

The first paper mill in the United States was started on the outskirts of Philadelphia in 1690.

* * * * * * * * *

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 44. Washington, D. C. November 2, 1925.

FIRE PREVENTION CONFERENCES

By Evan W. Kelley, D-7

For the first time, as far as my knowledge goes, the United States Forest Service has held fire prevention conferences. The meetings were at three widely separated points: first, in North Carolina, then in Arkansas, and then in Virginia. Groups of 20 to 30 serious-minded Forest officers for the equivalent of two long working days, part of which extended well into each night, hammered away on the problem of how to prevent fires from starting. Upon these days, the ordinary pre-suppression phases of fire control were set aside. Fire prevention, and all that it implies, commanded 100 per cent attention.

The men of these groups came to grips with one of the most baffling problems now confronting the Service - How to prevent forest fires. District Seven's annual crop of man-caused fires, representing nearly 100 per cent of the total, and chiefly of incendiary origin, forms perhaps the most difficult fire prevention problem of the Service.

Each regional group, through a hard-working committee, strove to check up the system of prevention now used, to outline new approaches, and to identify the technique in each which, in its judgment, may be best adapted to the several conditions of District Seven. Means of identifying each risk were worked out and the remedy in each case was prescribed. Methods of administering the remedy were laid down. Minimum requirements were set up for governing personal contact work and for other elements of the job. This alone is a long step forward.

To sum up: Fire prevention as an activity, ranking hand in hand with suppression, was written into District Seven's Fire Code, subject to the same methods of supervision, inspection, reward and administrative action as the other so-called ranking activities. Last, but not least, for the next year or two, as the outcome of these meetings, fire prevention equipment will have first call upon available funds. Mark you, Major Guthrie, that this call is ahead of the demands for axes, rakes, hoes, water bags, etc. Fire prevention in District Seven is a major, not an incidental, activity.

--------#--------

Two Decades Under the Department of Agriculture

By Harry Irion, Washington

July 1, 1905, marked the beginning of the first entire fiscal year that the National Forests were under the jurisdiction of the Department of Agriculture. Twenty fiscal years have rolled by since that date, and before passing on it is fitting that we take a retrospective glance for the purpose of decennially comparing the National Forest timber business of that period. During the first decade this class of business progressively expanded at a rapid rate, the receipts from timber sales, for example, aggregating $1,167,139 during the last year of the decade as compared with a total of $202,470 for the first year. Every form of authorized timber use, except free use, more than doubled in volume and value during the second decade as compared with the first decade, and it is noteworthy that timber trespass, an unauthorized use, actually decreased 52.5 per cent. The whole story is told in greater detail in the following summary comparison of the first two decades under the Department of Agriculture:

	First decade F.Y. 1906-1915, incl.	Second decade F.Y. 1916-1925, incl.	Per cent of increase over first decade
Number of sales made	54,781	127,410	132.6
Amount cut under sales - M feet	3,953,277	8,277,367	109.4
Contract value of cut under sales	8,231,136	$19,745,935	139.9
Receipts:			
(a) Timber sales and settlement(1)	$8,789,523	$20,243,229	130.4
(b) Timber trespass	353,571	167,917	52.5 (decrease)
Free use:			
(a) Number of users	313,750	379,768	21.0
(b) Amount cut - M feet	1,041,101	1,008,659	3.1 (decrease)
(c) Estimated value	$1,589,840	$1,203,399	24.3 (decrease)

(1) Does not include receipts from turpentine sales, which during the second decade totaled $133,640. Receipts from turpentine sales were not kept separately throughout the first decade, but the incomplete data available indicates that they probably amounted to about one-half the second decade total.

--------#--------

ORGANIZATION AND AEROPLANES

By F. A. Thompson, Malheur

RANGER SAM. "Say, Bob - you been lookin' over the 'ministration Manual lately?"

RANGER BOB. "Yep, been readin' her some."

R. S. "Did you notice the "Organization Chart" 'long about page thirteen or fourteen?"

R. B. "Why -- yes -- not perticularly tho !"

R. S. "Well, sir, I couldn't help thinkin' how much she looked like a aeroplane in full flight!"

R. B. "Yes sir - it does resemble a aeroplane a'right."

R. S. "But did you figger which way she was a runnin'? 'Cordin' to my idea of a plane the Forester an' 'Sociate Forester ud be the propeller. Now that ain't jest right - them two is rudders an'd guides the ship, so to speak. An' every time the Forester wants to dip, er zoom, er bank a little he gives the rudder a twist and this throws 'em all, from Lands an' her six little rudders on the left to Research an' her six little rudders on the right, a little out of line an' it takes a lot of cooperation to keep her headin' true an' straight on the new course.

'N then the 8 District Offices and the D.F.'s git quite a twistin' an' chances is they is considerable in doubt about just what degree the compass is now headin'. But as soon as all them big an' little rudders in the main part o' the ship git thru twistin' an' turnin', the D.F. passes out the new dope as he figgers her.

'N then the six D.F. rudders start to correct their readin's an' the Super gits a shakin' an' passes thru a period o' doubt an' uncertainty as to whether we're due fer a zoom, loop, or side slip.

Now all this time the Ranger is way out on the end an' gits such a shakin' back an' forth that he don't know nuthin' about whats comin'. 'N iffen he gits a message from anywheres beyond the 8 District Offices askin' why in Hell he aint lined up properly chances is he has to admit he's considerable fuddled up an' waitin' fer the numerous rudders farther for'd to settle down steady.

Now every plane I've ever saw was either a "pusher" er a "puller," 'n if this one's a "puller," with the power up front 'n the steerin' done behind, we got some job; 'n if she's a "pusher" with the propeller behind then we ('n the comparatively few so-called "doers" up ahead) have got to keep her movin,' an' if all them little rudders up for'd aint cuttin' the wind about right we're goin' to git nowheres, in record time.

R. B. "We git a shakin' one ways 'n got some job tother, aint we?"

R. S. "Yep. Well, I just got a jerk from Right Rear Lands Judder 'n got to notify that summer home owner Bill Jones to fork over three dollars more fer his permit this year. S'long."

R. B. "S'long Sam."

--------#--------

WASHINGTON NOTES

Coordinating Commission Submits Its Report: On October 19, the Coordinating Commission on National Parks and Forests submitted its report to the President's Committee on Outdoor Recreation. The commission found that the National Park Service and the Forest Service have a common interest in the following new National Parks or additions to existing Parks:

New Parks: Shenandoah in Virginia; Great Smoky in Tennessee; Cliff Cities in New Mexico; Big Horn Mountains, Wyoming and Montana; Redwood, California; Sawtooth, Idaho; Mena, Arkansas.

Additions to the Following: Sequoia, Yosemite and Lassen, California; Yellowstone, Wyoming; Grand Canyon, Arizona; Rocky Mountain, Colorado; Crater Lake, Oregon; Mt. Rainier, Washington.

The commission accepted the joint recommendation of the Park Service and the Forest Service that no further consideration of the Shenandoah and Great Smoky National Parks was necessary. Approval was given to an agreement between the Park Service and the Forest Service whereby the boundaries of the Mt. Rainier Park would, with the consent of Congress, be changed. Like recommendations of the Park and Forest Services respecting the Sequoia National Forest were approved. Changes in the boundary of the Yellowstone Park on its eastern and southern sides acceptable to the Forester and the Director of the Park Service were approved. The Superintendent of the Yellowstone Park and the District Forester at Ogden are to make a further study of the boundary between the Park and the Targhee and Madison Forests to determine whether the adoption of topographic boundaries would promote the better administration of the Park and National Forests. Their findings are to be submitted to the commission for later consideration. Slight additions to the Grand Canyon Park on both the south and north sides, which additions were satisfactory to the Forest Service, were approved. The commission approved the postponement of further consideration of the Cliff Cities Park Project.

With respect to the Mt. Evans area in the Pike National Forest, the commission approved the present plan of cooperation between the Forest Service and the Denver Mountain Parks Commission with no change in the present status of the land. The boundaries of the Rocky Mt. National Park are to be slightly modified in accordance with recommendations of the Forest Service and the Park Service. Proposed additions to the Crater Lake National Park in Oregon and the Yosemite National Park in California were reported to be in process of adjustment between the Park Service and the Forest Service.--[illegible]

- - - - - - -

Tom Gill Leaves for Cuba: Last Saturday Mr. Gill sailed for Havana, Cuba, on a two-months' leave of absence from the Forest Service. He will make a study of forestry conditions in the Province of Santiago de Cuba on lands owned by the Cuba Sugar Company. This expedition, which includes Dr. H. N. Whitford, formerly Professor of Tropical Forests at Yale University, and Major H. P. Ahern, formerly Forester of the Philippine Islands, is being sent by the Tropical Plant Research Foundation. On a great number of acres held by the large sugar companies it is impossible to raise sugar cane, and the purpose of the expedition is in part to find out what can be done by forest practice on these lands. Samples of important tree species will be collected and sent back to this country for identification.

- - - - - - -

Portable Sawmill Week: Mr. Cope has returned from the Pennsylvania State College, where a portable sawmill week was held by the Department of Farm Forestry. During the week a portable saw was set up and operated with electrical power and tractors. Lumber was sawed, instruction was given in saw filing and fitting, timber was estimated, and a number of discussions of value to the farmer in marketing his woodlot products were held.

- - - - - - -

H. N. Wheeler has returned to Washington from the Lake States, where he gave 40 lectures in 40 days. Mr. Wheeler says he noticed a marked increase of interest in forestry in these states.

- - - - - - -

Mrs. L. T. Conway has left for a two months' trip to Mississippi, where she has been invited to talk before clubs and schools. These talks are being given under the auspices of the Mississippi Federation of Women's Clubs, and Mrs. Conway expects to visit 20 or more towns before she leaves the state.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Timber Sale Business is Active: Timber business on the Coeur d'Alene Forest has never been so active as at present. During the first three months of the current fiscal year approximately [illegible] million feet were scaled, while the actual receipts for the quarter were $14[illegible]. The cut runs pretty heavily to white pine, which brings all the way from $[illegible] to $13.00 on the stump. The limitation of cut is 50 million annually.

- - - - - - -

Work on the Western Larch and White Fir Utilization Studies is being pushed by the Office of Products. There is much to be learned about the present utilization of these species, and many interesting and some rather peculiar conditions are encountered.

A striking thing about western larch is the small percentage of upper grades being manufactured. This species is on an average capable of producing a much higher yield of D and better selects than any tree in the Inland Empire. And yet during the past [illegible] years the records available show that in this region only 5 per cent select lumber has been manufactured. Some improvement is noted, the average production over the past 5-year period being about 8 per cent. But the larch in this region should average at least 25 per cent of D and better. The reason for this condition is possibly due in part to inertia in the industry, but the basic cause is lack of consumer demand for select larch products. Extension of the use of larch selects therefore offers one of the greatest possibilities in the attempt to give western larch its proper place among the commercial softwoods of the country. The Canadians have apparently led the way in this work. One Canadian mill received last year an average mill run price for its larch of $5.00 per M in excess of our regional average. How can this be explained? Apparently two things are responsible. This Canadian mill manufactured more than 25 per cent of its larch into select products instead of putting this material into such lower-grade items as ties and dimension. And also of real importance is the fact that the manufacturer believes in his product. Many of our sales managers are too easily convinced that larch is an inferior wood.

- - - - - - - - - - - - - -

DISTRICT 3 - SOUTHWESTERN DISTRICT

Biological Survey Rodent Work in Arizona: The report of the Biological Survey control work in Arizona [illegible] shows [illegible] among the rodent population. In this one year [illegible] acres were cleared of infestation by the killing of over a half million rodents. A big job like this was done only through the combined work of county agents, farm owners, and several Government agencies working hand in hand. The largest individual job was that on the [illegible] sheep range, north of Williams, where prairie dogs were practically exterminated over the entire range of 50,000 acres. On this area it was estimated that 75 per cent of the feed was being destroyed by rodents, and after the job was completed not more than a dozen live prairie dogs were found and these were sent on their way by means of a rifle. The result of this work speaks for itself in the saving of forage for range animals, elimination of destructive pests in irrigation ditches, and the saving of farm crops.

- - - - - - -

New Mexico Has Petrified Forest: In order to satisfy a long existing curiosity Supervisor Andrews recently made a trip to the Petrified Forest near Cerrillos. This forest covers an area of only four or five acres, although occasional fragments are found over a much larger area surrounding. It can be reached by following the road along the west side of the railroad track northerly from Cerrillos to the first ranch house, a distance of about two miles. The forest is within one-half mile of the ranch. The exhibits there do not present the imposing extent and appearance of those near Holbrook and Adamanna; nevertheless, they are well worth viewing. Several trees are found intact up to 60 feet in length and possibly of a three or four-foot diameter at the base. The infiltration is not as highly colored as it is in the Adamanna Forest but is still definitely agatized and takes a high polish. A peculiar feature of the forest is that trees are found in the sedimentary deposits in the valley and also firmly imbedded in the sandstone cliffs near-by. They apparently were hardwoods.

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Found After a Fifteen-Year Search: There has been a search on for the past 15 years among Forest officers to find aspen trees which have originated from seed in Utah. The quest has been fruitless, for every little tree pulled up has shown the horizontal root from which the little fellow has come as a sucker.

Ranger Geo. C. Larson of the Uinta has at last found the unfindable and has sent several specimens of the seedling aspen into this office to prove his point. These are seedlings clearly enough. He found them along the rocky shore of Strawberry Reservoir where the water has receded. This is a mile distant from the nearest aspen and there is no evidence of aspen having grown there before. The plants are two years old now and about six inches high. Apparently the seed washed down Bryant Fork Creek from the dense aspen stands above and lodged at the high water line, which has not been reached in the past two years. Ranger Larson reports that all these trees are found in places where the banks are rocky and none are found where the shore is muddy or of ordinary soil.

- - - - - - -

Star Valley - Yellowstone Road: All the roads into Jackson Hole enter over high divides. The Snake River, after flowing the length of the hole, cuts its way out through mountains into a canyon known as the Grand Canyon of the Snake. This canyon has been a fearsome spot, according to all tales, ever since the Astor expedition, a hundred or more years ago, wrecked itself in the rapids and found the canyon impossible to penetrate. Talk of a road through this canyon has come up off and on for many years, but it promised to be such a tremendous undertaking that the project was never considered very seriously.

District Forester R. H. Rutledge, State Highway Commissioner L. E. Laird of Wyoming, Wyoming District Engineer Templeton, and Mr. Wallace of the Bureau of Public Roads at Denver, recently went over the route to get a better idea of this stupendous undertaking. They entered the canyon, which is 26 miles long, at 10 o'clock in the morning and in seven hours running time found themselves out at the interstate bridge at the lower end of the canyon. The trail is a rough unmaintained affair, and so the good time made across the route speaks volumes for the character of the country. Instead of finding a long, bad, rock-bound canyon, they discovered that out of the 26 miles about two-thirds of the way numerous benches and bars offered an excellent route for a road. There ~~is~~ are hardly over five miles of heavy construction in all, and only a couple of stretches of a thousand feet each through solid rock. There is, of course, much steep country and a good many rock slides to cross, but the route is not at all bad.

DISTRICT 5 - CALIFORNIA DISTRICT

State Foresters Hold Annual Conference in California: The Sixth Annual Conference of the Association of State Foresters was held this year in California during the week of October 11. The session opened at Sacramento where the assembled foresters were greeted and addressed by Governor Friend Richardson. Following the Sacramento sessions a trip was made to the San Francisco Bay region and a day spent in visiting the Grizzly Peak lookout tower in the Berkeley hills and various points of interest in the city. On the evening of October 12, following a get-together dinner, the State Foresters were guests of the California Section, Society of American Foresters. Speeches of welcome were made at this meeting by T. D. Woodbury, President of the California Section, Professor Mulford, Dean of the Forestry Department, University of California, and District Forester Redington, followed by short talks from the visiting foresters. Wednesday morning the party left in machines for a trip through the redwood region, accompanied by members of the State Forester's office, Forest Service, and California Development Association. The first day's run was to Willits with a stopover at Ukiah, where the Chamber of Commerce held a luncheon in honor of the visitors. The second day was spent in the redwood region visiting numerous state redwood parks and the sawmill and tree nursery of the Pacific Lumber Company at Scotia. The party broke up at Scotia, some of the members returning to San Francisco and others going to Yosemite National Park and southern California.

F. W. Besley, State Forester of Maryland, was elected President of the Association for the ensuing year, and it was voted to hold the next meeting in Baltimore, Maryland, during the early part of October, 1926. The Association of State Foresters passed resolutions against any change in the present policy of the Forest Service in the administration of National Forest ranges, and endorsed the Secretary of Agriculture's request for not less than a million dollars for cooperative fire prevention under the terms of the Clarke-McNary Act.

- - - - - - -

Extinguishing Fires From Airplanes Unsuccessful: Recent experiments were carried on at Mather Field by Pilot Potter and L. W. Hess in the effort to extinguish small fires from the air by dropping chemicals upon them. Trips were made by airplane, at an altitude of about 200 feet, over the small fires that were built. Hess dropped a gallon of liquid each trip from the plane as near the fire as he could. Two of the bottles hit within eight feet of the fire and the liquid spattered all over it. However, the fire burned merrily on. The inventor of the chemical could not understand why it was not effective.

The experiment showed that it is entirely practicable to put small quantities of liquid from the air near small fires, and if a chemical can be developed that is powerful enough to smother out fires in the open and that is not poisonous to stock and dangerous to handle it might have a place in putting out fires from the air in their incipiency. So far such a chemical has not put in an appearance.

- - - - - - - - - - - - - - -

DISTRICT 6 - NORTH PACIFIC DISTRICT

Long-Bell Declares for Forestry: The newspapers last month carried an announcement from the Long-Bell Lumber Company that they intend reforesting the three or four thousand acres which are cut over by them annually. The item indicated that they contemplated using artificial planting at least in part and would put in a forest nursery at Ryderwood. Already they are falling snags which might constitute a fire menace, burning their slashings, and protecting their cut-overs as well as their virgin timber. If successful with these measures the lands may reforest naturally all right. The building of fire lines by planting broadleaf trees, like alder, on old spurs is also proposed.

- - - - - - -

"The Last Wilderness": This is a new book, with scene laid in the Olympic Peninsula. It is by Mrs. Salone Ellis, whose first novel "The Logger" came out in October 1924, and was very popular. Mrs. Ellis was furnished with certain forest facts and forestry information which she stated she wished to use in her new book. Her books are published by Small, Maynard & Co., Boston.

- - - - - - -

Even the Padres are Trained: Here's the latest in California's long list of alibis for her weather. You've got to admit two things - that they are clever at it, and that they never let up on it.

"Father Jerome S. Ricard, padre of the sun spots, blames the forest fires in the northwest for the fresh weather and fogs that have occurred along the California coast. He says:

"There is a strong suspicion, almost amounting to a certainty, that the uncontrollable fires in the Northwest are to be blamed for it. Immense clouds of ashes obscure the sky, making navigation near the shore tantamount to dangerous. These clouds of ashes are necessarily blown down this way by the peculiar north and northwest winds, and thus account for the obscure and ash-laden skies over the coast and far into the interior."

--------#--------

Forestry and Its Progress in Japan

Japan, according to an official bulletin recently issued by the bureau of forestry, Department of Agriculture and Commerce, at Tokio, is richer in relative area of forests to total area than America or any European country. There are 109,992,128 acres of land covered with forests. The complete area of Japan is 170,725,000 acres. Thus, 65 per cent of this entire country is in forests. Ownership of land is divided into five heads. The crown, or the imperial household, owns 3,463,280 acres; the state possesses 57,878,450 acres; the public, 11,176,020 acres; shrines and temples, 314,742 acres, and private ownership has 38,388,965 acres.

****

Speaking of the watch on the Rhine, it's a hunting case but doesn't seem to be gold filled.--Shanghai Weekly Review.

****

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 45. Washington, D. C. November 9, 1925.

WILL YOU SEND IN YOURS?

By E. V. Beeks, Cleveland

Did you ever find yourself picking up interest when you read a brief, meaty description of the other fellow's job, his headquarters, and District? You know it! Let's have just that. With the editor's permission, here is what I propose:

Each Supervisor's office to send the editor a short conversational write-up descriptive of his headquarters town and surrounding region. This "means you" - wherever the flag flies and the Super. hangs his hat. Scratch off the description sometime when you are resting, or sometime when the wife asks you to help with the dishes. And it means you District Rangers and Experiment Stations too. Tell us a little about your job. Do sales keep you busy or is it mostly grazing? Lots of fire? How about tourists, camp grounds, and summer home sites? Do you have a Government house? Live in town? What's it like? Or just a store and post office? Have much snow, or rain? Does it get very hot there in the summer? How do you like the climate?

We believe you will like to read about the other fellow's place, so send in your description. Naturally the editor will not be able to print them all. We promise that the [illegible] containing these descriptions will not be cast aside, but kept carefully for future reference. There is no telling when you may want all the "dope" about conditions at Steamboat Springs, Sawyers Bar District or Ketchikan. Yes, this means you Alaskan Rangers, and you fellows in D-7 from Alabama to New Hampshire.

Here is my description; let's have yours next.

CLEVELAND N. F., D-5

Located on the highest mountain ranges (and not so very high at that) in the southwestern part of California. Area about 814,000 acres with considerable private land scattered through. The Forest used to be much larger and all in one piece. Since then much has been eliminated (familiar old word) and now the Cleveland is in four separate chunks.

She's a bear for fire when started, as about the best gilt-edged fuel you can get is the heavy brush cover that lies over the slopes of the Cleveland, although its inflammability does not exceed the similar elfin forest on the Angeles and Santa Barbara - they say. Last year we specialized on a few big fires rather than a lot of small ones. This year our Supervisor says we will specialize on no fires at all if we want to keep our jobs.

We are a heavy tourist and recreation Forest, though we don't head the list, I admit. But we get run sufficiently ragged by campers and camp fires, the campers likewise getting a good share of theirs at the J.P.'s. We have 348 special use permits, 230 of them being pay permits (191 of them residence permits). Our grazing is very small, yet we have 71 permits a year to issue, which takes about as much office work as though it covered a big bunch of stock. Timber sales: practically none. We have two or three nice little stands of timber, but comparatively speaking they are of minor importance for lumber and more valuable for recreation and watershed purposes. Brush is our principal cover; ours is a watershed protection Forest.

In the winter and outside the long fire season we are very busy on improvements such as roads and trails.

Fire season begins in May or June and ends when the winter rains come, which may be as late as December. No rain during the summer to speak of. Highest peak on Forest is San Jacinto (only 10,805); a lot of you can "look down" on this peak.

In the summer we are kept busy with our intensive fire protection, elaborate fire plans, patrol routes, hazard areas and recreation areas.

HEADQUARTERS OF CLEVELAND N. F. at San Diego, Calif.

Fine office, located in Federal Bldg., one large room (clerks), one small room (Supervisor). Have a good many callers for lands information, and camp fire permits and special use permits.

San Diego's population round 100,000; located on Pacific Ocean and San Diego Bay. Elevation from sea level to about 250 feet above, or more. Has all the advantages and disadvantages of a large city. Climate, advertised as the best in the world; not far from true either. Has no snow, never freezes. Summers are cool; rarely hot. Can reach most all parts of the Forest by auto roads, that is to principal points and stations. Number of accounts vouchers per year, about 325. Last summer (extra hard fire season) spent about $47,000 for fire suppression. Have about $14,000 per year for roads, trails, and other improvements. Have additional cooperative funds besides. Including Protection, Suppression and Protection Improvements (both cash and donated service) we have a total of about $18,000 Cooperative funds yearly. Local people are much in earnest about preserving the brush-covered watersheds.

It is frequently hazy around San Diego but on clear days to the east one may see Cuyamaca Peak, one of our lookout points, and the rest of that range of mountains, appearing softly contoured with few abrupt peaks. To the south, the bay, Coronado Islands, and Table Mt. in Mexico. The land region near San Diego is mostly flat mesa type, with gradual hills and mountains as you go east and north. Tia Juana is close by. If you picture in one or two blocks all the saloons you used to see in about five American towns combined, you will see Tia Juana. Probably less water is drunk there than in any other one place on the continent.

Editor's Note: This is not, as many of you might suppose, another subtle and clever way to advertise California. We're for this idea - strong. If you who read it are also strong for it, strong enough to send us a little talk about your own District or Forest, then the idea is a success. Otherwise she's a flop. We won't be able to use all the articles - you wouldn't want us to - but we can use representative write-ups for our various types of Forests and Ranger Districts. Alaska, Florida, and the Lake States tune in on this. And all the rest of you. There is a Ranger on the Tonto wondering what the job's like on the Chelan, and a Deputy on the Deerlodge would sure be interested in reading of the particular brand of grief they have on the Shenandoah. Well, we can't all get around the camp fire together, but we can do the next best thing and write our buddies about it for the SERVICE BULLETIN. It's up to you.

-------#-------

SOME OBSERVATIONS ON ORGANIZATION

By C. N. Woods, D-4

In the May 25 issue of the SERVICE BULLETIN, J.H.C. of District 1 criticizes District 4's reduction of personnel.

District 1's man brings up the question of overhead. We believe this is a question that can to advantage be given a lot of thought. District 1's man does not specify on what ground he would deprive us of the credit we claimed for reducing our ranger and clerical forces, unless he means to say no circumstances will justify a reduction in the personnel of a certain class or classes of employees. We have also made a number of Forest consolidations, have cut down our D.O. overhead, and one Forest has been added to the District.

It is admitted that District 4 has no formula by which to determine with mathematical certainty the proper relation of overhead to the ranger force. It is also admitted that it is possible to have an unjustifiably large overhead. Perhaps some or all of the Districts have such an overhead, but it seems obvious that the overhead may be either too small or too large in comparison to the number of rangers. We might have too few or too many rangers, or too few or too many of any other class of employees, relatively or absolutely.

To make comparison of all overhead between National Forest Districts, we need a more uniform practice of bookkeeping. In some cases project men are carried on the District Office rolls, and in some cases they are not. A person working out from the District Office on such work as surveying for map of a Forest, making timber survey, doing grazing reconnaissance work, etc., should have his salary charged to the Forest rather than to the District office, since the jobs mentioned are in no sense overhead work. However, this difficulty does not enter into comparison of number of employees by classes given in the following table:

District	Average size (net) of Forest	Average size (net) of Ranger District	No. of Assistant Supervisors
1	934,000 A.	139,000 A.	27
2	773,000 A.	145,000 A.	8
3	1,354,000 A.	198,000 A.	16
4	1,130,000 A.	195,000 A.	17
5	1,136,000 A.	200,000 A.	22
6	1,052,000 A.	211,000 A.	14
Average	1,063,000 A.	181,000 A.	17

It is seen that the size of District 4's average ranger district comes nearest the six Districts' average. Three National Forest Districts have larger ranger districts than has District 4 by an average of 6,000 acres; two have smaller ranger districts by an average of 53,000 acres. District 4's average ranger district is pretty close to the six Districts' average.

Referring further to "overhead," the following statistics show the number of clerks all grades in District Offices and in the field in the six Districts. Most any way we have figured it, there is a wide variation here:

District	No. of Forests in Dist.	No. of Clerks All Grades in D.O.	No. of D.O. Clerks per Forest	No. of Clerks of all Grades on Forests	No. of Field Clerks per Forest
1	24	33	1.37	57	2.37
2	26	26	1.00	41	1.58
3	14	23	1.64	36	2.57
4	26	21	.81	36	1.38
5	17	28	1.65	40	2.35
6	22	30	1.36	43	1.95
Avg.	21.5	27	1.30	42	2.03

As these statistics show, there is much lack of uniformity between National Forest Districts in size of Forests, in size of ranger districts, and in number of deputies. Are differences in condition and work sufficient to account for these differences in organization? Observe we are picking out no one Forest to represent a District, but are giving averages.

District 4 lays no claim to being able to say with great accuracy what the size of a Forest should be, how large the ranger district can properly be made, nor how many clerks we should have. The different figures are merely given as some evidence that we are too far apart in our organization.

As to the balance of D. C. overhead, figures are not being given, since we have not sufficient available data for the six Districts. What data we have indicate a wide difference in organization. We should be glad to see a comparison made of the rest of the District Office overhead. We feel that District 4 is, at least relatively, low.

-------#-------

WASHINGTON NOTES

The Gang is in Denver for the District Foresters' Meeting: Col. Bill; all of his assistants, and a few of their assistants have trekked toward the great open spaces, leaving a very much weakened organization to do things in Washington.

Our sympathy to Mr. Sherman, who will just have to make the best of what there is left.

- - - - - - -

Yes, We Have Statistics! For several years a project has been under way to issue a "Brain Book" which would be found useful for supplying the statistical information needed by members of the Forest Service and others. Attention is drawn to the fact that the Yearbooks of 1922, 1923, and 1924 contain a very considerable amount of carefully compiled statistical information relative to forests and forestry, such as area, stand, growth, fires, and statistics of forest products. For convenient desk use Separates from the first two Yearbooks are now available, and Separates from the 1924 Yearbook are expected to be available about November 15. Small stocks of the first two have been sent to the District offices, and will soon be sent to the Laboratory and the Experiment Stations. They will be found useful as a ready reference when the need arises for forest statistics and will help to insure a uniformity of quotation of such statistics throughout the Service. It is planned to continue the project in such a way that eventually we shall have a complete Brain Book of the statistics most commonly needed, all under one cover.

- - - - - - -

Chapline Hangs Up a Talking Record: No one would ever accuse W. R. Chapline of being a talkative soul, but just the same he lectured five times in one day while at Ames, Iowa, recently. Naturally, his remarks concerned grazing in the National Forests. His audiences were made up of both faculty members and students of the Iowa State College.

--------#--------

DISTRICT 1 - NORTHERN DISTRICT

Eastern White Pine on the Kootenai: In 1913 a plantation of eastern white pine was made on the Kootenai Forest in the Yakt River valley. The trees in this plantation are now much taller than those in any other plantation in the District, the best trees running up to 20 or even 25 feet in height. The height of the eastern white pine is more than double that of the western white pine which came in naturally after the 1910 burn and which is probably about the same age as the eastern white pine. The indications are that it might be worth while to introduce a considerable amount of eastern white pine into the planting program for the District.

- - - - - - - - - -

Too Many Elk in Sun River Preserve: The latest estimate of the number of elk in the Sun River Game Preserve on the Lewis and Clark National Forest is 3,900. In 1910 this area was estimated to support only 300 head. In that year steps were taken to provide range for the elk through the limiting of use by domestic stock, and in 1913 a game preserve was established by act of the Montana legislature. The estimated annual increase at the present time is 400 head, or more than the total number using the range in 1910. The annual kill averages about 100 head. With an estimated capacity of 2,500 head, a serious problem already exists in the matter of disposing of the surplus, which already reaches approximately 1,400 head. The attitude of sportsmen has been to ask for more and more concessions in the way of areas closed to domestic stock. They apparently do not realize the danger of creating a surplus that will not only make it necessary to exclude domestic stock entirely but will also in time result in heavy losses from starvation and possibly damage to farms outside the Forest. The situation may easily become, in the case of elk, analogous to the Kaibab in the case of deer.

--------#--------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Senior Ranger Camp Closes: The Senior Ranger Training Camp broke up at noon October 3. One trainee states that "Every attendant concluded that it was a great success and feel that the knowledge acquired, through the untiring efforts of the instructors and the opportunity of swapping ideas with fellow members, has given them a bigger and broader view of Forest Policies, and all feel that they are now better qualified than ever before to take hold of the Government reins with steadier hands and drive to safety that which has been entrusted in their care." Continuing, he states further: "I feel that I got more out of the three weeks spent at the camp than I ever did before in the same length of time in Forest Service work and only wish that it had been possible for every member of the Forest to attend the camp. I feel that this District has made one of the most progressive steps in its career when it established the training camp and know that it will reap a rich harvest from it."

- - - - - - -

Canadian Industry Comes to the Lincoln: Silver fox farming, an industry that has always been associated in most minds with southern Alaska and points in Canada, will be taken up on a ranch on the Ruidoso Creek on the Lincoln Forest, according to an Alamogordo paper. The area on which the ranch will be started is reported, by experienced fox farmers, to have the proper qualifications of timber, climate, soil and so on. The operation will start with 50 pairs of foxes, which in itself is a considerable investment, since those animals are worth about $2,000 a pair.

- - - - - - -

Exchange Business Good: The Gila Forest which recently acquired title to a small tract of land under the Exchange Law liked the result so well that it is starting a campaign of small exchanges. One exchange which has just been negotiated with one of the large cattle companies will give the United States 160 acres of timberland, with a good stand of timber located in the heart of the Forest, in exchange for an equal acreage of land used and valuable primarily for grazing. The Supervisor reports that other exchanges are under way and that the Gila is keenly interested in opportunities along this line. The Exchange Law affords an opportunity for consolidation of holdings, which cannot well be overlooked. Once a few trades are made on a Forest, it is believed that the business will move of its own initiative and the handling of the cases is not difficult, while the acquisition of the small alienations scattered through the Forests should go far to simplify the problems of administration.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Chairman of Forest Week Committee: A chairman for the American Forest Week committee for Utah has been discovered in the person of Wm. H. Bywater, ex-Chief of the Salt Lake Fire Department. Mr. Bywater has had long years of experience in fighting fire and in developing public sentiment against carelessness. He knows all the ropes in Utah and even before called upon had a comprehensive plan of how he would carry out such a campaign. The personnel of the committee will be worked up as soon as possible and a strong program for Utah is promised.

- - - - - - - -

Deer Hunters: Assistant District Forester [illegible], who has just returned from the Kaibab, states that when he was at Ryan in October, the following hunters had entered the hunting camps:

Kane

From	Arizona	66
"	California	6
"	New Mexico	3

Ryan

From	Utah	23
"	California	50
"	Arizona	57
"	Missouri	2
"	Colorado	4

Of the 57 Arizona hunters entering at Ryan, 16 were Piute Indians.

* * *

DISTRICT 5 - CALIFORNIA DISTRICT

Oak Utilization: A portable sawmill recently began operations on a small sale on the Sequoia, principally for the purpose of supplying lumber to the builders of summer homes near-by.

As an experiment the operator has sawed about 15,000 board feet of black oak (Quercus californica). The logs range in length from 6 to 12 feet, although occasionally, longer logs are obtained. Thus far, the lumber is seasoning quite satisfactorily with but little end checking. It is piled in 7-foot piles in the shade and the ends of the boards are left unpointed.

A ready market for oak is at hand at Bakersfield for the manufacture and repair of auto truck bodies, at prices ranging up to $200 per M. The operator is optimistic, and also intends to experiment with this oak for flooring and furniture. It is hoped that he will succeed, for should the exploitation of California oak prove practicable commercially, we can utilize at a profit a species long thought to be valueless except for fuel.--W.E.J.

* * *

Cattle Wreck Airplane: It was a "take off" on "Lasca." The cattle were milling, so were the aviators. The cattle were milling around. The flyers were gaining experience. And in the "melee of horns and hoofs and heads" the plane gained a collection of airplane cuts and bruises that resulted in its being shipped to San Diego in a box car.

Pilot P. A. Andert, in charge of an airplane from Mather Field, Sacramento, was making reconnaissance flights for officials of Trinity National Forest. With him were Mechanician Torey and Forest Ranger Everest.

Farmer Smith's pasture was the aviation field. The plane and cattle started at the same time. The cattle got there first. When the dust cleared away the cattle were still going, but the plane wasn't.

Except for the plane, there were no casualties.

- - - - - - - -

DISTRICT 6 - NORTH PACIFIC DISTRICT

Air-Seasoning Studies: In the course of the air-seasoning study, during 1923 and 1924, at Mill B of the Weyerhaeuser Timber Company, Everett, Wash., it was shown that the degrade in 1-inch stock used for roof boards ranged from 25 to 30 per cent. At that time the practice was to use a double roof with an overhang at front and rear. During a recent visit it was noted that this practice has been discontinued and that but half the number of boards are being used in the roof as formerly, meaning a large saving [illegible]. This change in practice is one of the direct results of the study [illegible].

- - - - - - - -

Bear Tracks: Asst. Supervisor Thompson of the Whitman writes: "I made an examination of the [illegible] fire a few days after it was reported out. In walking around the fire edge I noticed an unusual lot of bear tracks. I followed them around for about half an hour, wondering what bear was doing amongst the ashes. There were so many tracks and they were so large that I became quite interested and that night in camp described what I had found to some of the boys on the [illegible] District. Come to find out these bear tracks were made by Ranger Paul Ellis, who decided that feeling for hot spots with his fingers was too slow a method, so he had removed his shoes and sought out that 'last spark' in that manner."

- - - - - - -

Telling the World: Ranger Vincent of the Colville is preventing forest fires in a practical way. On the tire cover on the back of his car he has painted in large letters "PREVENT FOREST FIRES - IT PAYS." Just to show that it's official, he has a small Forest Service shield fixed just below his tail light which shows up well at night. The shield is cut from one of the old tin signs.

-------#-------

WOLF! WOLF! AND THERE WAS NO WOLF

By Clinton G. Smith, D-7

A Supervisor of an Eastern Forest, who shall be nameless, reported the killing of eight wolves on the National Forest under his control, five by local residents and three by Forest Officers. This seemed so interesting that a member of the Biological Survey was consulted, who laconically stated "Interesting if true, send us skulls and feet for identification. Wolves have been in this locality in the past, maybe they have come back." When this information was given to the Supervisor, the expected happened. The entry for wildcats had been made in the wolf column and a biological discovery blew up.

Our estimates of game are often crude, but they should represent the best judgement of the reporting officer, and they should be consistent from year to year. Otherwise the fauna of the country will be incorrectly mapped and unwarranted distrust will be expressed as to our annual wild life census. Nothing is so helpful in the campaign for wild life preservation as figures representing the occurrence and approximate numbers of animals. The total estimates which we make are impressive, and are a valuable contribution to our general plans for game administration and protection, and it is a demonstrated fact that errors balance. Witness the fairly accurate totals of agricultural reports made by voluntary observers. These reports may be inaccurate for a small unit, but for a state they are a good basis for important deductions as to agricultural conditions. Our annual game reports are capable of widespread use in stimulating interest in game matters.

* * * * * * *

Over 5,000 acres have been planted with Douglas fir in the Rotorua region of New Zealand. From actual measurements it is estimated that yields of 50,000 to 60,000 board feet to the acre will be obtained with a 45-year rotation.

Service Bulletin
U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 46. Washington, D. C. November 16, 1925.

THE "BUG" FACTOR IN FOREST MANAGEMENT

By H. L. Person and Burnett Sanford, Bureau of Entomology

The basic feature of any forest management plan is the marking practice to be followed. A large amount of experimental work has been done by foresters to develop a marking policy that would be the most desirable and most easily applicable to the varied conditions found in our forests. The first timber sales in California were marked under the selection system of 1905-1909. The object at that time was to stock the cut-over land as fully as possible with sugar pine and yellow pine and to secure a second cut within thirty years. It called for the leaving of at least four seed trees over 24" in diameter to the acre. This system was followed by the group selection system of 1910-1918, which called for the removal of all mature and overmature trees including about 66 per cent of the stand 12" d.b.h. and over.

At present a combination group selection and selection system of marking is in use, the objects being to harvest ripe timber, to insure the possibility of a second cut within 40 to 70 years wherever practicable, to secure reproduction following cutting, to accelerate growth of the remaining stand and to make the timber purchasers operation as profitable as the practice of good silviculture will allow. In general, it calls for the cutting of all mature and decadent trees and the leaving of only thrifty trees. Thrifty mature trees are marked so as to leave a reserve of trees over 12" d.b.h., of four to ten thousand board feet per acre on good sites and from two to five thousand board feet per acre on poor sites.

The forest entomologist becomes vitally interested in this management plan when the question is asked, "What will happen to this two to ten thousand b. m. of timber over 12" in diameter left on the area for from 50 to 75 years?" The insect loss, of course, is not the only menace, since windfall, fire, fungi, mistletoe and other injurious agencies all take their toll. We believe, however, that in yellow pine and in yellow pine-sugar pine stands the insect loss is more serious than all the other injurious agencies combined.

A recent study of all the suitable Forest Service sale areas on the Sierra National Forest proved the seriousness of this insect loss. On the average about three trees over 12" d.b.h. per acre or 1,920 per section are left as a basis for the second cut. Considering only the five average Site 2 areas studied, we find that the average annual loss from bark beetles (D. brevicomis and D. monticolae), is thirteen trees per section. If this continues for a fifty-year period (some of the cut-over areas are already nearly 20 years old), it will mean a loss of 650 trees or approximately 34 per cent of the pines left for the second cut. If the cutting cycle be extended to 75 years the loss would be 975 trees or 50 per cent. On the worst area studied the annual loss was 30 pines per section. A 65-year return on this area would see all of the pine trees, which were left as a basis for the second cut, killed by bark beetles. The least infested area would see 225, or approximately 11 per cent of the trees killed.

In terms of annual increment we find that from 14 per cent to 100 per cent of the increment on the area is lost through insects with an average loss of approximately 50 per cent.

The whole difficulty seems to lie in the fact that a reduction in the number of potential host trees for the bark beetles, by logging, does not bring about a proportionate decrease in the number of trees attacked. A loss of 15 trees to the section in a fully stocked stand is not considered serious. However, when from 50 to 75 per cent of the original stand is taken out and the loss of trees per section continues at around 15 trees, it means a very high percentage of loss. It seems improbable that the insect loss will continue at a rate that would kill all the large trees on an area within 75 years; but even the loss of 50 per cent of the trees left as a basis for a second cut would be too high a price to pay for the shortened cutting cycle.

How to reduce these losses is the problem. If any of them were due to epidemic infestations they could be reduced by direct control work. All of the areas, however, have only an endemic infestation. In the light of present knowledge control work under such conditions would be impracticable. It is not only very difficult physically to reduce materially the loss from an endemic infestation, but the costs would be so high as to be prohibitive. Reduction of this loss then must evidently depend on some modification in the marking policy. It may be possible after further study to classify the yellow pine and sugar pine stands according to degree of susceptibility to insect attack. If this can be done it will be possible to treat the stands, which will probably suffer the greatest loss, independently, while the remaining stands can be handled under the present marking system. If this cannot be done and the insect losses found on the Sierra Forest prove to be general, it seems evident that some new marking policy will have to be adopted for yellow pine and yellow pine-sugar pine stands.

The most apparent solution of this problem and the one most satisfactory from the entomologist's viewpoint would be to clear cut yellow pine and sugar pine where heavy insect loss appears probable and depend on advance reproduction for the next stand. Whether the disadvantages of clear cutting, such as the lengthening of the cutting cycle and the cost of planting where advanced reproduction is lacking, would more than overbalance the elimination of insect and other losses suffered by reserved trees under the present selection system of marking would have to be determined by further study.

-------#-------

FORESTRY AT THE FAIRS

By H. R. Kylie, Washington

Each year, at the turning of the leaves, the farmers throughout our land unite in making a display of the choicest crops from thousands of farms. This is the agriculturist's "fiesta" time. Here is the consummation of his year's toil.

Picture, if you can, the tremendous extent of this activity, and as an aid to your effort scan a map of the United States and note the vast total of counties checker-boarding it. Imagine the buildings of the county fair with thousands of curious and more or less receptive people milling through them intent on viewing the choicest specimens of the art of the farmer. Do your own estimating as to the number of massive pumpkins and red apples that are shown each year. Add to these the plates of grapes, baskets of pears, the pyramids of peaches, and ears of yellow corn. Neglect not to include the piles of potatoes, boxes of wheat, and jars of preserves, the baked goods, and needlework, and if this effort has not wearied you try calculating the number of miles these farm products would reach if placed end to end, how large an ocean they would fill, or what sort of a mountain range could be constructed with them.

In the words of the cartoonist, "What is wrong with this picture?" The answer is - "There are no products from the forest shown."

While in Arkansas last year during fair time I asked the fair Secretary why, since he was erecting a number of new buildings, he did not plan for a Forestry Building in which might be shown samples of the forest crop and of the many products derived from wood. He did not answer this question in the snappy manner in which fair secretaries answer most questions, but gave it some consideration before he finally replied.

"That's a good idea; if you can work it out we'll make a place for the building." In talking it over with the Secretary of the Arkansas Soft Pine Association who was with me, and in an endeavor to "work it out," I found that he, too, was in sympathy with the idea, and have since learned that he has started the ball rolling and a forestry building at this fair has become at least a possibility.

Is there any good reason why there should not be a forestry building or section at the State and county fairs? The products on display would come from the woodlot, the lumber mill and the factory. The Forest Service is not alone in having an interest in such a building. Nor would it be alone in manning the display.

We see at the fairs the same massive pumpkins and red apples and ears of yellow corn year after year. Year after year we find the folks showing the same interest in them and getting up early during Fair Week to do the chores so that an early start can be made and a full day put in at the fair grounds.

Suppose we were to show sections from various trees illustrating the rapidity and slowness of growth in different species. Or again, suppose we showed with these same sections the retarding effect of fire. If we were to do this you may be sure it would arouse interest among the farmers because wherever such sections have been shown they always have aroused this interest. And if, in addition, we could translate the yearly increment of wood from an acre into dollars and cents for display, we would be talking a language that Mr. Farmer understands, for if we are to sell forestry to the farmers that is the way it will have to be done.

We do not have to stop here, however. The finished and partly finished articles made from wood would show how the crop was used, and would stimulate the wood grower's interest in his crop, which interest it is reasonable to assume would ultimately take form in better woodlots and more of them.

To appeals based on the country's need for wood or those based on pride in well-managed, well-utilized acres, the farmer's ear is not particularly sensitive. But the appeal to the pocketbook, if we can make it, is a siren appeal to which our farmer will listen eagerly.

What, think you, would be the effect on him of seeing such a concrete expression of the forestry idea each year at the fair? Since forestry is a part of agriculture and the forest crop an important one, it does not seem chimerical to believe that a forestry building with forestry crops on exhibit would give forestry on the farm a decided impetus, and an acknowledged standing with the farmer. It would be a good thing for forestry.

If it pays to grow trees, we as champions of the idea should tell 'em so, and when the leaves begin to color and fall, and crops are gathered and fields are bare: the fall of the year, fair time, is, it seems to me, indicated. Tell me if I'm wrong.

-------#-------

WASHINGTON NOTES

Cook Speaks at Family Meeting: Every once in a while someone comes along with a gift for narrative plus an intimate knowledge of events and personalities concerning some branch of our widely separated Service family. At its Family Meeting recently held in the auditorium of the National Museum, the Washington office had the pleasure of meeting and hearing a fellow worker so gifted in the person of George H. Cook of the Albuquerque office. On comparatively short notice and in the face of a rather crowded program, Mr. Cook favored us with a talk on the Southwestern Forest Ranger. He reminisced in an easy and delightful style and made his subject fairly live by drawing upon a memory richly stored with a knowledge of southwestern Service history, frequently biographical. It was one of those real human talks that sways hearts and stirs pulses and was so well done that it received the heartiest commendation. We feel richer in making Mr. Cook's acquaintance and wish to give assurances that a warm welcome awaits him if he comes our way again.

- - - - - - - - - - - - - -

Here is an Interesting Sidelight on a paper presented by W. W. Ashe to the Southern Logging Association a few years ago on the "Economic Waste in Cutting Small Timber." A lumber company in Arkansas which had not been operating profitably put into practice, according to a statement made by the manager of the company at a recent meeting of the Southern Logging Association, some of Mr. Ashe's deductions as to the high cost of operating small timber and the low volume of its products and now reports very favorable financial results.

- - - - - - - - - - - - - -

The Open Season for Writing is now here and the SERVICE BULLETIN is patiently awaiting its share of contributions. What have you to offer? Get out your Waterman, Royal, Underwood, or whatever you use to transfer your scintillating thoughts onto paper, and let us know what is on your mind. Articles should be marked for the attention of the Editor of the SERVICE BULLETIN, so that they won't go astray.

--------#------

DISTRICT 1 - NORTHERN DISTRICT

Trail Construction: Some figures compiled for use at the Denver meeting regarding the expenditure of Forest development funds within District 1 may be of general interest. In North Idaho, of the $1,315,526 that have been expended for construction to date, $758,153, or nearly 60 per cent, have been spent for construction of trails. In western Montana (those

Forests west of the Continental Divide) $876,410 have been expended for construction to date, and of this amount $451,264, or slightly over 50 per cent, have been expended for trails. In eastern Montana (those Forests east of the Continental Divide) there have been expended to date $183,244, of which $55,332, or approximately 30 per cent, have been expended for trails. The total sum spent for construction in Montana and Idaho is $2,427,180, of which $1,262,589, or approximately 52 per cent, have been expended for trails.

The interesting thing about the figures in comparison with those of other Districts is the relatively large percentage of the appropriation which it has been necessary to expend on trail construction in order to open up the big undeveloped region of North Idaho and western Montana. Trails in North Idaho and western Montana are essential for fire protection, and until the trail program is completed it will be necessary to continue expending at least an equal percentage of what moneys are received for this purpose.

- - - - - - -

Salvage of Fire-killed Timber on Kaniksu Forest: Excellent progress has been made toward disposing of the principal bodies of timber killed or injured in the forest fires of this year on the Kaniksu Forest. The Lamb Creek timber was disposed of to the Dalkena Lumber Company under administrative use permit. This includes 4,700 M of white pine, 2,800 M of other species, and 5,000 cedar poles. The stumpage prices on this are $2 per M for white pine, 25 cents per M for mixed species, and 1 cent per linear foot for cedar poles. The low prices are due to the big expense for road construction in getting out this timber, but the road constructed for this chance will be used later in taking out about 15 million feet of unburned timber on Lamb Creek. The timber burned in the Watson Mountain fire on Granite Creek is now being advertised. This amounts to 6,000 M of white pine, 200 M of yellow pine, 100 M of spruce, 1,620 M of cedar, 4,000 M of white fir and hemlock, 800 M of Douglas fir, 210 M of larch, and 7,200 cedar poles. The timber is being advertised at a minimum rate of $5 per M for white pine, $2.50 per M for yellow pine, $1.50 per M for spruce, 50 cents per M for other species, and 2 cents per linear foot for cedar poles. It is expected that this timber will be taken out by the Dalkena Lumber Company, and an emergency sale has been made to the company to permit immediate beginning of operations.

--------------

The annual per capita consumption of paper in Russia is 5 pounds, in Japan 11 pounds, Scandinavia 33 pounds, Germany 45 pounds, Great Britain 75 pounds, and in the United States 148 pounds.

* * * * * *

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

Supervisors' Meeting on the Harney N. F.: The Supervisors' Meeting held for ten days on the Harney National Forest came to a successful close on October 24. It was a radical departure from the traditional Supervisors' Meeting, concerning itself primarily with the most elementary, practical work in the field instead of time-honored problems of theoretical forestry. The method of approach was thoroughly in line with the subject matter of the meeting and consisted of actual field demonstrations with a minimum of time devoted to indoor sessions. The meeting was acclaimed a thorough success by all who attended, and a precedent was established which will be of equal value in future Ranger meetings and other similar gatherings of Forest officers.

- - - - - - -

"Just Another Instance": D-2 notes with pleasure "the splendid cooperation given by big business organizations in California" as related on pages 7 and 8 of the October 5 BULLETIN, but would hasten to claim some of that credit for Colorado since, if we are correctly informed, it was at the suggestion of W. D. Fishburn, Colorado Manager, Western Auto Supply Company, that the movement referred to was set under way by the central office in Los Angeles.

-------#-------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Nature Study Camp Selected: The Tucson Natural History Society has selected a nature study camp in the Mt. Lemmon Division of the Coronado Forest, acting in cooperation with Forest officers. The area selected is located in Marshall's Gulch near the Wilderness of Rocks at Summerhaven. The society plans to take up with the Forest Service through regular channels the appropriate methods to set aside this area. It is the desire of the society to retain it in its natural conditions for ecological and nature study purposes.

- - - - - - -

Does Knowledge Breed Happiness? "Since coming home from the Ranger Training Camp," states a Coronado Ranger, "I have been looking at my pasture horizontally, and thought I had some feed. The other evening I laid out a quadrat in a thick place and mapped it. Yoi, Yoi, I found from a vertical view that there was a density of 10 per cent. The man who said that too much knowledge was a terrible thing is right, and I don't see how a technically trained man can ever be happy. However, the apple trees at the Station bloomed again last week and are hanging full of fruit for the second time this year, and maybe I can feed them to my horses after the 10 per cent pasture is gone, unless some scientist comes along and tells me that I am again seeing something which is absent."

-------#-------

DISTRICT 4 -- INTERMOUNTAIN DISTRICT

A Pair of Novel Ideas: The Teton Forest is using an interesting system for the comparison of unit costs by Ranger districts for the three activities, grazing, commercial timber sales, and S-22 sales. A comparison is made in terms of hours per head in the first case and hours per M feet cut in the other two. In this way it is possible to get a good comparison between the Ranger districts, particularly as the differences due to the various salary scales are eliminated thereby. The results have proven very valuable.

Another departure is the use of a blueprinted form on an atlas-sized sheet. This form, which is filled out at the end of each month, comprises Form 26, a work plan for the next month, a time analysis sheet, and a tabulation showing distribution of time by activities. This, too, has proven very satisfactory in use.

- - - - - - - -

Easy Way to Remove Snow: Ranger Latham of the Targhee removes snow from buildings in the following manner: He takes a long piece of telephone wire and lays it along the roof parallel to the ridge and close to it. One end of the wire is then fastened near the ground and by pulling on the other end the snow is all sheared loose from the roof, after which it soon slides off. This method is said to work successfully in any kind of weather if the roof is at least as steep as half pitch.

- - - - - - - -

DISTRICT 5 - CALIFORNIA DISTRICT

A Universal Forest Fire: A wall of living fire is sweeping down upon the forest clearing. Angry tongues of flame reach out and turn the little cabin at the edge of the woods into a seething furnace. A man comes running frantically across the open and plunges into the blazing shack. The smoke and flames drive him back through the door. He seizes a towel hanging on the outside of the building, soaks it in a bucket of water and wrapping it around his head plunges once more into the inferno. Empty handed he comes staggering out again, with clothes smoking and a look of fear and anguish graven upon his face. The flames come rolling on. He turns and runs with reeling steps across the clearing, falling over logs, crawling on his hands and knees. Will he escape the fiery monster?

"Cut!" cries the director. "That was mighty well done, House! Jim, put a little more liquid smoke on your hat and knees and we'll have a retake. Let's go. C-a-m-e-r-a-!"

Thus are forest fire movies being taken by the Universal Picture Corporation on the Plumas National Forest. "The Rowdy," a 6-reel lumbering story, is being "shot" near Mohawk, with Lynn Reynolds directing and House Peters and Wanda Hawley as stars. One large forest fire and numerous small ones have been "pulled off" with the help of a plentiful supply of green trees, slashing, coal oil, tar paper, smoke pots, and liquid smoke. All burning was done on private logged-over lands under the watchful eye of Ranger Gould and Supervisor Rogers. And they were hot fires, too. If you don't believe it, try throwing a gallon of kerosene on a live fire running in a bunch of green trees and then figure out what the temperature would be if you used a barrel full.

Forty-three actors from Universal City, Hollywood, have been stopping for two weeks at the Mohawk Hotel, rechristened "Lumber Jacks Rest," and some 80 men from the California Fruit Exchange plant at Greeagle have been working as extras. The casualties in one day alone amounted to three broken ribs, several shapely arms and legs scorched by fire, and one suit of clothes, a perfectly good silk dress, and a blonde wig ruined.

Five expert camera men are "shooting" the scenes, and 7,650 feet of film were used in two days' fire work. The Forest Service will receive prints of all good fire negative, together with several hundred feet of special shots of brush burning, portable fire pumps in action, fire crews on the line, etc., taken for us through the courtesy of the motion picture director.

DISTRICT 6 - NORTH PACIFIC DISTRICT

Warning the Picnicker: Fire warning slips in picnic goods may be one of the forest fire prevention aids next summer. E. B. Hall, Chairman of the "Stop Forest Fires Association" of the Klamath County Chamber of Commerce, has sent out a letter to nine of the national manufacturers of picnic goods requesting them to include such slips next summer. An additional list of picnic goods manufacturers is being compiled in Portland for their use.

It is expected that the drive will be taken up by other constituent members of the Oregon State Chamber of Commerce similar to the cigarette drive last year.

Mr. Lynn P. Sabin, Executive Secretary of the Klamath County Chamber of Commerce, was the originator of the "Stop Forest Fires Association" idea, and some splendid publicity work in fire prevention has been carried on by his organization.

- - - - - - - -

More Fame, Mickey! Ranger Elliott's "Oh Wonderful Horse" struck a responsive chord in many hearts and was memorized by many Forest officers.

First published in a local paper, later in the 6-26, the Washington BULLETIN and several District news letters and in AMERICAN FORESTRY, it is still going the rounds. It remained for an enterprising horse breeder "showing" at the Pacific International Livestock Exposition to bring out its value as a PR item in extolling the virtues of his mares. Elliott's poem, faithfully transcribed in large letters, quite evidently hand done on a placard 18" x 30" is hung conspicuously over a group of stalls where prize shire stallions and mares munch their grain.

Appropriately arranged above it a tier of blue, purple and red ribbons, evidently the winnings of the shires at previous fairs, pay silent tribute to Elliott's poem, sharing the honors with the horses in the flesh below.

The credit is given to H.R.Elliott, AMERICAN FORESTRY magazine.--D.C.I.

-------#-------

LUMBER FROM FINLAND

The first shipment of lumber from Finland landed in Boston last Friday. Another shipment is on its way to New York, and a third is being loaded for shipment to Florida.

. These shipments are experimental in nature. The promoter, a Finn, is shipping a variety of sizes and kinds of lumber to be sold in competition with similar kinds and sizes here.

Bruno Kivikoski, chargé d'affaires, Legation of Finland in Washington, states that the current selling price of lumber in Finland is about the same as in New York. It is doubtful, however, if the cost of manufacture is as low as in the United States. In Finland a much smaller percentage of the final selling price is taken up by freight charges than in the United States. Although the freight charges from Finland to New York are lower than from the Pacific Coast to New York, this difference in manufacturing cost may prove too great a handicap for the Finns.

* * * * * * * *

The tallest tree that grows in the world is the Eucalyptus amygdalina of Australia. Some specimens reach a height of 480 feet. This is more than 150 feet higher than the great Sequoias of California.

* * * * * * * *

218

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 47.   Washington, D. C.   November 23, 1925.

CHUGACH "TYPHOOSTERS"

By L. C. Pratt, Chugach

"The brewing pot of storms" is what meteorologists dub the region about the head of the Gulf of Alaska. Government weather sharks claim that meteorologists the world over watch the barometric pressure of this region very closely, as it has a far-reaching effect on the weather of a large part of the world.

No one who spent the last 40 days on the Chugach will question the aptness of the name. The total rainfall for the last ten days of September was 19.43 inches, practically all of which fell in three days. The record for one day - September 26 - was 8.53 inches. In 12 hours of that day six and one-half inches were recorded.

In the first 12 days of October the Cordova weather station recorded a rainfall of 26.5 inches, and between October 1 and 22, inclusive, the total for the period reached 41.92 inches, an average in round numbers of two inches a day. We are inclined to believe it was a no greater deluge that caused Noah to frantically break out his broadax and go to hewing timbers for the ark.

The downpour was accompanied by terrific southeast winds, and between the torrential rains and the high winds considerable damage was reported over the whole eastern end of the Chugach.

Roads, bridges, and trails went by the board. The Cordova-Eyak Lake road, which was built well above ordinary high water, was submerged for half its length. The lake side of the road was badly undercut and in places practically washed away. Temporary repairs were made late in September only to be completely demolished again early in October. The 300-foot B.P.R. bridge over the Katalla River left its piers and sailed for parts unknown. More or less extensive damage is reported on practically all road projects in the Prince William Sound and Katalla ranger districts, and in the vicinity of Seward in the Anchorage district.

October 17 witnessed one of the most destructive storms that has visited the Prince William Sound region in years. Halibut schooners which put into the Sound for shelter reported a terrific storm at sea.

The gas boat Shamrock, with Acting Supervisor Pratt, Ranger Murray, and Capt. Harris aboard, weathered out the blow at the head of Port Nellie Juan on the west side of the Sound.

The night of the 17th it blew what Ranger Murray described as a "howling typhooster." And it was all of that. Sleep was out of the question. We had two anchors down but expected every minute to hear the anchor chains part under the strain. The skipper, restless as a cat on a hot stove, would every minute or two stick his head up through the fo'c's'le hatch and take a look around. Murray and Pratt lay in their bunks and cast up the ledger of their past lives. A little before midnight the skipper called from the wheelhouse.

"Hit the deck, fellers; she's adrift."

And we hit the deck in record time, Pratt losing half a square foot of shin covering in the process. With the pressure of the wind and the pitching of the boat it was impossible to stand upright on deck. And as dark as a stack of coal-black tomcats!

It was a precipitous shore just there and the jagged rocks were waiting a hundred yards off. Luck was with us and the engine started without trouble. We headed the boat into the wind, and thanks to a reliable engine, a staunch boat, and a skillful captain, we managed to stick it out until 2.30 a. m., when the wind again abated somewhat.

The 18th proved fairly calm and we ran to Latouche, where we learned something of the damage done about the Sound. At Latouche it demolished a snowshed and stripped the metal roofs from a number of mine buildings, blew down the wireless tower, and did other damage.

The Government tie mill on Knight Island suffered heavy damage. One bunkhouse was picked up by the wind and smashed into a second bunkhouse, which it demolished. The wreckage of the two was ignited from a stove and burned. The drying shed, with five men in it, was blown from the hillside into the bay, 200 feet below. Fortunately, none of the men were seriously injured. The after-end of the mill was completely wrecked. A big ocean-going barge, the Lawrence, which was tied to the dock with 13 big hawsers and had two anchors down, parted every line and drifted across the bay. As luck would have it, she hit a small gravel beach - the rest of the shore line for a mile in either direction was straight up-and-down bluffs - and suffered little damage. A boom of logs broke up and 30,000 to 40,000 feet of sawtimber drifted out to sea. Patches of timber several acres in extent that had been laid perfectly flat were seen along the shore. Every tree from sapling to the oldest veteran was wind-thrown.

At Cordova the wind shifted the Government Indian school several feet, picking one end up bodily and jamming it down over a big hemlock stump. Two houses on the main street were carried away by a landslide and completely demolished. The grand stand and bleachers at the ball park were strewn all over Orca Inlet.

From every part of the Sound come similar tales. And apparently the end is not yet. It is still (October 22) raining steadily with intermittent heavy blows.

"The brewing pot of storms!" That's the Chugach.

-------#-------

"SAVE MONEY WITH BIDS"

By W. C. Robert, D-2

It is ancient history to refer to Silas B. Helm's article, "Purchase Under Bid," in the SERVICE BULLETIN of August 24. But to make my argument "tie in" it is necessary to make this reference.

I do not agree that we should try to have the regulation requiring bids changed as he suggested. It would be a money-losing proposition for the Government. It is true the regulation may seem to cause a little extra work, but the money saved by this requirement justifies the use of bids. It is a settled fact that when a Government employee asks a man to quote prices verbally, he will quote about his regular price, or in some cases higher than he would to an individual. If a bid is sent to him he knows others are competing. Consequently, he quotes bed-rock prices. Before the "P.B.S.D." (Promotion by Suspension Days) there seemed to be quite a tendency to use exigency statements frequently. (Yes! we were guilty.)

The most outstanding example I have in mind showing bids to be a financial advantage is putting up the hay on one of our ranger stations this year. Several times in the past we have had to "tear our hair" and make out exigency statements because the expense incurred ran higher than we had anticipated. This year it was suggested to the Rangers that they use bids. Before the bids were sent out one of the Rangers asked a man to quote him a price. He agreed to work for $7.50 a day. The bids were later sent out to three men that could conveniently do the work. They quoted the following prices- $7.50, $5.50, and $5.25. On this little nine-day job the bids netted us a saving of $[illegible]. We did not have to use the bids with the voucher because they kept the price below $50.00. If the bids are used for smaller purchases than $50.00 they will always save us a little money and MUCH worry in case the service runs over $50.00 when we do not expect it.

In hiring men and making purchases the trend seems to be toward friendship for the man we deal with. These so-called friends very often make the Government pay for the friendship. The man that quoted our Ranger $7.50 a day for putting up the [illegible] was apparently very friendly to the Forest Service and the Ranger. (It would pay him to be.) Because of his proximity to the ranger station he would have been awarded the job in the majority of cases if arrangements had been made verbally without bid requirements. Bids preclude the friendship element that is bound to enter into Government transactions.

The above is the most recent case I can cite, but by no means the only one. The bid strikes me as being one of our best ways to economize.

NO WONDER WE HAVE TO HAVE SO MANY LAWYERS

No, this is not an extract from some new work of fiction or a record of a conversation in an insane asylum. It is the stenographer's report of a serious meeting of serious men:

The CHAIRMAN. The motion was made that it was the sense of this meeting that a law should be introduced into the coming legislature providing for the installation of receptacles for matches and burning tobacco in automobiles, and be made a misdemeanor to throw burning tobacco and matches from automobiles.

Mr. A. Why not make that any inflammable material?

The SUPERVISOR. I wouldn't limit it to automobiles.

The CHAIRMAN. Motor vehicles?

Mr. B. Why limit it to vehicles? I am a traveler. I go upon the trail and throw my cigarette out. We have a lot of fires starting like that. Why not include in that even pedestrians?

The CHAIRMAN. Well, I think it is limited to automobiles.

Mr. A. There would be a devil of a mess, making a man carry a spittoon around his neck.

Mr. B. Well, he can throw his cigarette down and step on it.

The MAN FROM THE DISTRICT OFFICE. That is against the law - there is a law against starting fires in the brush along the way.

Mr. C. After hearing you restate that, it occurs to me that if the law prevents a man throwing it out of a machine, what's the difference between that and a law making him keep it in there?

Mr. D. Instead of using automobiles, use the term vehicles - leave out motor.

The SUPERVISOR. That is unconstitutional.

Mr. D. Otherwise it wouldn't get any place because it would be unconstitutional.

The CHAIRMAN. It is the sense of this meeting that a law should be introduced in the coming legislature prohibiting the throwing out of inflammable material of any kind from a vehicle and that receptacles be required in vehicles for tobacco and matches. Does that cover it?

Mr. E. You let the lawyers work the details out.--R.H.

WASHINGTON NOTES

Power Permit Denied: The Federal Power Commission a short time ago denied an application for a preliminary power permit affecting Spirit Lake within the Columbia National Forest. This application was denied on the ground, among others, that the recreational value of the lake is such as to demand special consideration in whatever use is to be made of the natural resources of that region. It was held that extensive investigations would have to be made in order to determine how much storage could be developed without impairing the recreational value of the lake. The conclusion was reached that the importance of the project did not justify at this time the expenditures necessary to secure the required data.

This decision is of interest to the Forest Service, since it shows that the Federal Power Commission is disposed to give consideration to our representations respecting the recreational value of lands and particularly lakes within the National Forests which may be sought in connection with power development.

- - - - - - - -

History in Movies in Chicago: Dudley Grant Hayes, Supervisor of Visual Instruction, proposes that Chicago's pupils be taught in part by motion pictures this fall. He recommends that $20,000 be expended for the purchase of a set of 100 reels entitled "Chronicles of American History" from the Yale University Press. The Field Museum is now showing the pictures and children are to be taken there to see the films in conjunction with their history work.

FOREST EXPERIMENT STATIONS

"The Need of Forest Research" was the subject of three addresses delivered by Mr. Zon during the latter part of October; one at the dedication exercises of the new forestry building at the University of Washington, Seattle, one before the class in silviculture of the Forest School of the University of Washington, and the third before the Portland Section of the Society of American Foresters, Portland, Oregon. This subject matter has been printed in pamphlet form, and was also published in the November issue of the TIMBERMAN.

- - - - - - -

Mexican Forest Research: The work of the Forestry Department has been cut down to a minimum as a result of economics introduced this year by President Calles. The Forestry Department has an ambitious program of work which it expects to put into effect whenever sufficient funds are available.

At the present time the professional staff of the Forestry Department includes about seventy men. There is a National forestry school at Coyoacan, near Mexico City; two or three small reserves which are little more than tourists' parks; and eight "viveros," in which experiments are carried on, to find the best species of trees adapted to the particular soil and climate. Four of these "viveros" are located in the Federal District (Coyoacan, Xochimilco, San Cristobal and Santa Fe), and the others are near Vera Cruz, Tampico, Cuernavaca and Morelia.

The Director of the Departamento de Bosques estimated the expense for this year at Pesos 900,000. It is somewhat difficult to arrive at the exact amount of the budget for this Department, as the forestry service is included along with game and fish departments in the Direccion Forestal y de Caza y Pesca.--Extract of a letter from Geo. Wythe, Assistant Commercial Attache.

DISTRICT 1 - NORTHERN DISTRICT

Forest Fire Review Board: A review dealing with the serious Class "C" fires of the 1925 season was begun on November 13. Fortunately, only four Forests are involved, the Clearwater, Kaniksu, Kootenai, and Pend Oreille. The review will endeavor to check up on the action taken on each fire, performance through the fire's history, weakness developed in the organization, and remedies for any failures which occurred. The personnel of the review board will be Messrs. Koch and Flint of the District Office and Supervisor Jefferson of the Selway Forest.

- - - - - - -

Slash Piling Requirement Brings Results: Following the passage of the forestry legislation requiring piling and burning of logging slash in Idaho, several of the Supervisors were approached by operators and were asked to dispose of pieces of slash at stated prices. During the past season, the Supervisors of the Coeur d'Alene and St. Joe Forests undertook a number of these jobs, acting, of course, merely as agents for the companies in securing competent contractors for the work. In this way they were able to give employment to a number of experienced brush pilers from their own organization which otherwise they might have had to turn loose, the fire danger within and near the Forests was materially lessened, and an impetus was given to development of improved slash disposal methods in the State. Prices for the work ranged from 25¢ to 75¢ per thousand, depending upon the character of the tract and the standards of work required.

The slash piling requirement in the law is regarded in various ways by operators. Some frankly do not like it, but favorable sentiment appears to be gaining ground. One old-time foreman declared, "The only thing that makes me sore is that they didn't require this fifteen years ago."

DISTRICT 3 - SOUTHWESTERN DISTRICT

Verde Smoke Cases Decided Against Companies: The jury which was impaneled a few months ago to try the smoke cases that have arisen because of the damage done to farms by the Verde smelters, found a verdict against both the United Verde Ex. and the United Verde companies, the judgments running to $10,000. The suit was brought several years ago by the farmers of the Verde Valley, who claimed that their farms were damaged by the smoke from the furnaces of the two companies, the figure being set at approximately $26,000. The case was tried before Judge Borquin of the Montana division of the Federal court, having been called into the case by Judge Jacobs, who had cleared the way for the trial. The case was expected to consume six weeks but Judge Bourquin wound it up in about five days. The smelters have given notice of appeal, "to settle matters of law, over which the court and defendant lawyers disagreed."

- - - - - - - -

Irrigation Does a Lot: The Elephant Butte project will produce this year, it is estimated, crops worth 7 million dollars, an increase of one million over last year. The big money crops are: cotton, 4 million; alfalfa, 1 million; dairy products, 1 million; poultry products, $100,000; apples, $100,000; corn, $100,000, and cantaloupes, $100,000.

- - - - - - - -

Cattle and Lamb Feeding Experiments, similar to those carried out last year by the Animal Husbandry Department of the University of Arizona, will be repeated again this year, according to Professor E. B. Stanley of that Department. The experiments will be carried out at the Prescott dry farm and at the University experiment farm at Mesa. Last year a series of experiments on comparative rations and ages of cattle was carried out. These experiments were found to be successful from a financial as well as an experimental standpoint.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Within and Without: About 15 years ago a would-be homesteader started to build a log cabin on a heavily grazed portion of the Uinta National Forest. A structure about a rod square was raised about five feet before work was discontinued. This structure, which has remained pretty well intact, has served as a good experimental enclosure.

Following is a comparison of forage conditions inside and outside the enclosure from a study made last summer.

The density inside was close to .7. It would have been higher but the log fence shaded the ground causing a low density area close to it.

Outside the enclosure the density was hardly .2. The forage outside was mostly yarrow, polygonum, chenopodium and sagebrush. There was no grass or browse other than sage for some distance around.

Inside, Brome, Stipa, and wheat grass made up 75% of the forage cover. Rose, snowberry, and currant bushes were 15% of the plant cover. Dead sagebrush stalks showed that the dense growth of grass had killed out the former sagebrush forage cover.

- - - - - - - -

To Hunt Elk: The Utah State Game Commission is now making preparations for the killing of a limited number of elk in three regions in Utah. At present 325 permits have been issued - 160 for hunting in the Cache elk herd; 125 for the Nebo, and 40 for the so-called Emery herd. It is expected that four camps will be established on the Cache, two on the Nebo, while plans are not yet perfected for the handling of the Emery situation.

- - - - - - -

Notes from the Tie Camp: Camp Manager Edin received a letter from a former woods foreman now in Salt Lake City, which read in part as follows:

> "I yoost seen several of jour tie hacks standing on the streets looking at the telephone poles, but they decided not to cut them jet as they were not marked."

Moral: The Standard Timber Co's tie hacks cut marked timber only.-- Wyoming Wizzard.

- - - - - - -

DISTRICT 5 - CALIFORNIA DISTRICT

"Lost - One Perfectly Good Rain?" An article appeared in the SERVICE BULLETIN of August 10, entitled "Lost - One Perfectly Good Rain," giving comparative rainfall figures for a storm at a station in the open and at a near-by one "under forest," the former registering .90 inch as against .10 inch at the latter. Certain general conclusions connected with the evaporation and precipitation were drawn from the figures. The article somehow reminded me of a little drama I once saw played with a rain, a pine tree, and three empty tomato cans as chief actors. The tree stood somewhat alone in an open space with one can on the ground to the windward, one to leeward, and one under the tree on the windward side. When the curtain fell, the windward can contained one inch of water, the leeward can one-tenth inch, and that under the tree two inches. This article has got me guessing as to whether we lost a rain, gained one, or held our own.-- I.H.K.-Cleveland.

- - - - - - -

New Wrinkle in Greasing Fire Tools: During the recent season the guards and myself made a practice of saving the oil that was drained from the crank cases of our cars and using it for dipping tools, especially those with wooden handles. While the vessels which we happened to have were not large enough to contain all such tools at any one time, several were put into the container of oil and left for periods of from 7 to 10 days at a time.

It was found that the oil had a tendency not only to keep the handles tight, but also to make them pliable and less easily broken, and where the tools were thus treated they required no further treatment preparatory to storing for the winter. Where a large number of tools is involved perhaps the same results would be obtained by boiling them in the oil for an hour or so.

This oil is also useful for limbering up the springs of a car (especially Fords). An old paint brush is useful in applying the oil to car springs.--J.C.D.--Modoc.

DISTRICT 6 - NORTH PACIFIC DISTRICT

The Fifth Washington State Forestry Conference was held in the Chamber of Commerce in Seattle October 1 and 2. The principal topics discussed were the great risk occasioned by forest fires, the present system of taxing young growing forests, and the need for further research work. A proposed reforestation measure for the State of Washington was presented and this, together with the tax situation, caused the greatest discussion. Many interests were represented and there was much lively and informative discussion.

- - - - - - -

Exhibits: The Department exhibit was shown this year at Spokane, Yakima, and Puyallup Fairs. No booking could be made at either Salem or Portland; the fair managements objected to the requirement of an advance cash deposit of $150.00 for each showing. At these three fairs requests were registered from 470 different individuals for thousands of copies of Farmers' and other Department publications.

Forest Service displays were put on by Forest officers at Skamania, Ferry, and Kittitas counties fairs in Washington, and Grant County in Oregon.

- - - - - - - -

Pacific Logging Congress: The 16th Annual Meeting of the Pacific Logging Congress, originated by George M. Cornwall, editor and publisher of the TIMBERMAN, was held in Seattle, from October 28 to 31, 1925. The program covered a wide range of subjects of interest to loggers, but emphasized perhaps those relating to the technical details of the logging industry in the Northwest and on the Pacific Coast. The meeting was held under large tents in the railroad yards of the Union Pacific Railroad.

Service Bulletin
U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 48. Washington, D. C. November 30, 1925.

FOREST TAXATION

By William B. Greeley

Early discussion and thought on forest tax reform in this country centered about the so-called yield tax and this theory is very much alive today. In its simplest form it meant the taxing of the timber yield of the forest when it was cut. Of course, it would be possible, working backward from the timber income of a forest, to determine its true capital value (i. e., capitalization of the income), and by assessing under the property tax at prevailing rates this true capital value, avoid the difficulty of double taxation. But the exact valuing of the land under this theory is quite a complex matter since it would be necessary to have an accurate record of expenses and income for many years in carefully managed forests. In general we have neither such forests nor such records. The gross income value of a forest property, however, being represented by the value of the stumpage which is cut from it, is easy to determine. It would be easy also to adjust the yield tax rate so that the total tax burden on the forest property would be the same as would have been imposed by the annual property tax applied to the true capital value of the land. The yield tax would therefore have the advantage not merely of greater simplicity than a property tax on the true capital value of the land, but it would have the additional advantage from the owner's standpoint of being levied at the time when he was best able to pay it, namely, at the time of selling his timber.

The yield tax thus received a great deal of support among foresters and tax experts as the simplest means of taxing forest property. It has been recognized, however, that the substitution of a yield tax for the annual property tax would occasion irregularity and temporary loss of revenue in communities where there was a large amount of such property, particularly during the early decades of getting forests under management. To overcome this difficulty it was proposed by the proponents of the yield tax that the State should undertake to act as banker for such local communities, advancing to them annually out of the State treasury installments of the anticipated revenue of the yield tax. The State would reimburse itself ultimately out of the final receipts of the yield tax as timber came to maturity.

The States have been reluctant to undertake to carry out the yield tax plan as thus outlined. Instead, the plan usually has been compromised by omitting the plan of advances by the State and leaving the bare land value (i. e., the current market value of unimproved, logged-off land) subject to the general property tax as a means of affording the local communities some current revenue. The yield tax has been correspondingly reduced to offset the bare land tax. This compromise, where it has been tried, has offered some difficulties to the local communities because of the two different ways of receiving their revenue.

This arrangement, furthermore, has not been an entirely satisfactory one from the standpoint of forest tax reform. By giving the local communities the right to tax the land at its full market value and under the full rate applied to other property, double taxation was revived though in a somewhat different form. The market value of the bare land represents the present capital value of the property. Consequently, if it is taxed at the same rate as other property, that is obviously all the taxation it should be subjected to as property. The yield tax on the mature timber at the time of cutting, when added to the bare land tax, therefore constitutes double property taxation.

An alternative proposal has, in consequence, been made. It provides for the annual taxation of the bare land at its full market value and at the full general property tax rate as the only property tax to which forests should be subjected. It also provides that in any State where other business enterprises are required to pay general business income taxes (in addition, of course, to property taxes) the yield tax would be applied to forests in lieu of the business tax.

It may be well to point out that while this combination of land tax and yield tax is double taxation, it is not double property taxation as it was in the other form. It is a form of double taxation to which no exception can be taken on the score of its unfairness, because all business enterprises, including forestry, are treated alike.

The plan is an exceedingly simple one to put in operation. In so far as the property tax is concerned, all that is necessary is to provide that the growing timber itself shall be exempt from property taxation while it is growing. However, if it is not cut when it has attained its growth, it will then be put on the property tax rolls and be taxed in the same manner that mature timber is now. And where a business tax exists, the yield tax on the value of stumpage cut is preferable to the ordinary form of business tax, namely, net income, because of the complexity of computing gross income and expenses over so long a period as the life of a forest from seedling to maturity.

I confess that I have been leaning more and more to the bare land tax with the added feature of a business tax where such tax is levied in addition to the property tax because the plan is very simple and because under present forest conditions the current market value of logged-off land really represents its capital value for continuous forest production. This value is extremely low at the present day because we have hardly entered the stage of using the logged-off lands for timber growing. This plan entirely avoids the evil of double taxation, though from the standpoint of the owner it has the disadvantage of requiring an annual outlay for taxes when in many cases income will be deferred until timber grows to merchantable size. But taken all in all, and considering our present situation, I believe this plan offers at least a good starting point for tax reform. It gives the communities as much revenue as they are fairly entitled to from logged land and on the other hand assures the forest owner the same treatment that other property owners receive.

-------#-------

MY DISTRICT

By Roy M. Turner, Rio Grande

My stamping ground is the Creede District of the Rio Grande Forest, which is one of the smaller Districts of the Forest. Area of District 218,397 acres.

My headquarters is in Creede, a mining camp of approximately 400 population. The little camp is situated in a canyon about two miles north of the Rio Grande River. This stream is one of the best and most popular trout fishing streams in Colorado, if not in the entire West. Creede is the county seat of Mineral County; in fact, it is the only incorporated town in the county, the entire population of the county being less than 600. The fact that this county has produced more than ninety million dollars worth of ores since 1891 is evidence enough it is well named. The ores consist mainly of silver, lead, and zinc.

Creede was the stamping grounds of Bob Ford, slayer of Jesse James, and his gambling house called the Gunnison Headquarters was a resort of "bad" men and crooked games of chance. He was finally killed by a stranger - who drifted into town shortly after Ford came and by playing the role of law-abiding citizen became a deputy sheriff, after which he developed into the Nemesis of Bob Ford - all of which is a part of western history.

Our Forest lies south and west of the San Luis Valley. This valley is famous for grain, hay, potatoes, and stock raising. Our principal business is summer grazing and summer tourists. The latter would not be considered heavy on some Forests but considering that we are some 200 miles from a town of any size we are very well patronized.

From forty to sixty thousand head of cattle and sheep are grazed on a single ranger district during the summer months. These leave for more favorable winter quarters between October 1 and November 1. A Ranger on the Rio Grande looks perfectly correct in full cowboy attire. However, he may be seen in full uniform on special occasions during the tourist season, but owing to the summer rates at the various resorts he feels more contented while patronizing his private hotel maintained by the aid of his more considerate "pack mule."

The average district contains about 200 miles of improved trails, we don't care to mention roads, and our trail maintenance and construction is considered rather heavy. Most every district has two or more sawmills but our timber output is rather small just now. When the timber business is slack we are surveying summer homes and public camp grounds and improving the latter, building trails, and getting our grazing business where it can be handled at a minimum expense, etc.; all in view of moving millions of feet of our virgin stands of Engelmann spruce timber at the appointed time. This most assuredly will be in demand some day.

While our fire liability is considered rather small we do not look at it in that manner; numerous large fires have burned in this locality and they could most assuredly occur again under the same circumstances. We are trying to handle THE JOB - considering it from every angle.

Of course we do not claim to be as wet as Southern California or Tia Juana, however, we are now buried in the snow, but the "Moon Shines Still" wet or dry.

WASHINGTON NOTES

Getting Together: Miss Meredith Jones (otherwise Mr. E. N. Munns of Experiment Station fame) startled many costumed participants at the first Forest Service party of the year, held on Saturday night, November 21, by appearing, fan in hand, in flowing brown voile, her black tresses neatly (?) bobbed, and long, green pendants dangling from her ears. "These country girls are great," remarked one of the Assistant Branch Chiefs, as he eyed the startling visitor.

To the tune of several familiar waltzes, L. C. Everard and Miss Helen Smith rather informally demonstrated how to swing Indian clubs. Everard gave later - in the middle of the game program - a solo sword dance, in the center of a crowd of amazed onlookers.

Prizes for games, among which was the not-to-be forgotten ludicrous "Going through Jerusalem" that Norcross just missed winning by a hair, were awarded.

The colorful costumes of the many couples that glided around the slippery floor while the orchestra played, put everyone in a happy frame of mind, and the abundance of homemade food wherein the trusty knife of the Associate Forester played havoc with the loaves, added greatly to the festivities. Everyone parted with an "Oh! what a good time" feeling.

Of course Redington and some of those other new men from the great open spaces of the West were tuckered out after several strenuous games with the boys from the East, but that did not matter; they will get accustomed to our ways after a while.--J.B.C.

- - - - - - -

They're Back.--Back from the Denver meeting and in harness. The nub of it all seems to be that this was an inspiring and very much worth while conference. We hope later to be able to give you first hand information on it from the various members who attended.

-------#-------

DISTRICT 1 - NORTHERN DISTRICT

Twenty Additional Rain Gauges Have Been Purchased for installation next spring in the interior of ten of the worst fire Forests of the District. Precipitation records have too often been kept at low elevations outside the Forests, or at points inside that are too low to be truly representative of conditions as to rainfall which apply over the Forest as a whole. The general plan of distribution is in pairs, one on a lookout and the other at a ranger station well back in the interior of the same general region. The records thus gained should prove valuable not only in explaining Forest fire conditions, but in explaining occurrence of timber types, the possibility of successful planting, etc.

- - - - - - -

The Selway Game Preserve: The Selway Game Preserve is very well located for its purpose, is an ideal game country, and contains every species of game found upon the Forest, with the possible exception of mountain sheep.

Game is steadily increasing within the preserve and the overflow of elk is becoming noticeable, especially in the western portion of the Forest where elk were unknown a few years ago but are now frequently seen.

The State is much interested in this preserve and employs one man yearlong in its supervision. His chief duty is predatory animal control, though some time is devoted to trapper patrol. During the past two years regular salt grounds have been established within the preserve and these regularly stocked with block salt. The object has been to improve game distribution as well as better their physical condition. The salt is bringing about better distribution and heavy use of natural licks is no longer evident. The salt grounds are freely used by all kinds of game.

--------#--------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Bright Points in a Recent Ranger Examination:

An 800-pound mule will pack 400 lbs. up a trail 15% grade per day.

It takes 8 pounds of grain and 50 pounds of hay per day to feed a horse.

To run a cattle outfit consisting of 500 on the open range it requires 3,500 pounds of salt per month, five bulls and fifteen men.

A board foot is a piece of lumber 12 inches long, 1 inch thick and 1 inch wide.

Lumber in the log is sold by the million feet.

From the N.E. corner of Sec. 8 to the S.W. corner of Sec. 15 along section lines is 1½ miles.

E^2 S.E.^{4} of a Section contains 2 acres.

After a tree is felled the implement used in bucking up logs is a cant hook.

If an auto bus traveling at the rate of 10 miles per hour leaves at 12:55 and a touring car traveling in the same direction leaves at 3:00 traveling 16 miles per hour the latter will pass the former at 5:20.

A piece of land 10 chains wide and 80 chains long contains 1 acre.

A section corner stone marked = on the S. side and ≡ on the east side will be the N.E. corner of Section 3. Another answer to same question was S.W. corner of Section 1.

A 2800-pound team will pull over a good dirt road, 1500 pounds.

- - - - - - -

Deer Springs Unit Sale Approved: The papers covering the sale of 287 million feet of timber in what is known as the Deer Springs Unit, Sitgreaves National Forest, were recently approved by the Acting District Forester. This is the largest sale ever consummated in District Three. The sale is made to the Cady Lumber Corporation at an initial stumpage price of $2.75 per M. The agreement provides for reappraisal every three years beginning July 1, 1929. Removal of timber under the agreement is to be completed not later than July 1, 1941. Cutting is to commence not later than July 1, 1927, and at least 40 million feet are to be cut prior to July 1, 1929. The total cut from the sale area shall not be more than 155 million feet nor less than 140 million feet for each fire-year period commencing with the initial date of cutting. It is understood that the Cady Lumber Corporation is busy constructing railroad to tap the Unit and cutting will doubtless commence prior to the date spedified in the agreement.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

Reforesting Persia: A couple of years ago, the District Office received a request for some seed to be used by a missionary in Persia in experimental planting work. We, of course, had no seed to give him, but not wishint to appear as tightwads, we sent over to a Greek fruit stand and bought 25¢ worth of pine nuts to send him. Great was our surprise to hear, not long ago, that of all the seeds he had planted in Persia, the pine nuts had proved the most promising and he wanted another supply of this excellent seed. Another 25¢ worth was purchased from the fruit stand and is now on its way to transform Persia into another timberland like Nevada.

- - - - - - -

Back from Kaibab: Messrs. Morse and Swartz have returned from a three-weeks' inspection of the Kaibab Forest. They looked over the condition of the range in connection with the cropping of yellow pine and other trees by the deer. The deer have done a lot of damage to yellow pine, white fir, Douglas fir, and young aspen sprouts have been eaten down as fast as they have come up. In some places the rose cliff trees have been killed outright and the juniper has been cropped as high as the deer could reach. On some parts of the range they have started to trim the pinon pine. The sage made an excellent growth during the past season and will prove practically the only salvation for the deer during the coming winter.

DISTRICT 5 - CALIFORNIA DISTRICT

California Elks Association Sponsors Fire Prevention: At a recent convention of the California Elks Association, the following resolution sponsoring fire prevention was passed:

"Whereas, the Grand Lodge at its recent session in the City of Portland recommended to the State Associations of the respective States their close and wholehearted cooperation in the movement to protect our remaining forests from destruction by fire, and

"Whereas, in this, our State of California, the necessity is paramount for an awakening of our people to a full appreciation of the serious injury and harm to come to our State from the wanton destruction of our forests by fire and the consequent menace to our water resources, owing to the quick run-off from mountains and hillsides denuded by fire of the protecting cover of trees and brush, nature's own method of conservation;

"Now, Therefore, Be it Resolved: That this State Association stands committed to an active cooperation with the Forest Service Departments of the State of California and of the Federal Government in their efforts to reduce to a minimum the damage by fire to the forest lands of the State.

"Be it further Resolved: That the President and officers of this Association take such steps as to them may seem proper to educate the people of the State of California to a full and realizing sense of the serious and irreparable damage that may result to the State and to its water resources through the continued destruction of our forests by fire."

President J. J. Lermen of the California Elks Association has signified his intention, during his term of office, to carry the message of forest protection and cooperation with Federal and State forestry officials to all the lodges in the State.

- - - - - - -

Law Enforcement on Klamath Forest: On November 3, Herbert Orcutt, Ray Storrs, and Jack Titus appeared before the Federal court at Sacramento and pleaded guilty to setting fires on the Klamath National Forest on August 1 and 29.

Storrs and Titus while under arrest for another offense and being taken to the county seat at Yreka by the deputy sheriff, threw lighted matches and other inflammable material from the vehicle in which they were traveling, which started fires.

Each of the defendants was given a 30-day jail sentence.

--------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Some Tangible Results of PR: Ranger Case of the Siskiyou, at the end of the 1925 fire season remarks:- "Now that the fire season is over, we can take a moment off to look back at our fire record for the past summer.

"The most noticeable and satisfying feature of that record is the small number of fires occurring. While the season was not as dry as last season, it was nevertheless drier than usual, - the humidity seldom being above thirty. From one hundred twenty-five to two hundred cars,- or nearly twice the number that have ever passed through here previously, passed through the district every day, and the number of hunters and campers were proportionately increased. Moreover, during the entire summer there were 3 large construction crews working on the Redwood Highway, which is now being completed through this district. But, despite all of these hazards, we have had only 8 fires since the first of the year. The F. S. message, "Prevent forest fires,--It Pays," must be "getting over" to the people.

The other noticeable feature of our fire record is that none of our fires were large. Of our 8 fires, only 3 got to be class "B" fires and these were all brush burning fires which were handled entirely by the brush burning crews. Of our other 5 fires,--3 "smokers" and 2 "campers," none got to be more than 2 or 3 feet square before our patrolmen "got" them.

Of course we have probably been lucky but in a 345,000-acre ranger district, with the hazards that we have had, we feel that luck alone cannot be held responsible, but we are inclined to believe that most of the credit is due to F. S. organization, to F. S. policies, and particularly to F. S. education."

- - - - - - - -

The Forest School, O.A.C., is now the owner of a forest, which will be used for arboretum and experimental purposes. Present plans contemplate the formal dedication of this tract on January 26, 1926, when it will be named in honor of Dean George W. Peavy of the school. District Forester Granger and Director Munger of the Experiment Station have been asked to make talks at the dedication.

-------#-------

DISTRICT 7 - EASTERN DISTRICT

Three Fireless Months: During the past 3 years and 10 months there have been three fireless months on the Arkansas N.F., [illegible] and October [illegible], and October, 1925. Something to be thankful for! During this period, however, there were 17[illegible] fires or an average of 37.7 fires per month. Only 2.2% were lightning-caused fires, the other 97.8% were man-caused and therefore preventable. The burned acreage has been reduced to some extent, but until the number of fires is materially reduced, our protective system is not succeeding. Our suppression forces may be organized to perfection and every fire put out as it starts, but the past four years' experience shows that suppression doesn't keep many fires from starting. We will all agree (it is unanimous, I am sure) that Fire Prevention is THE stuff, so our job is to sell it to the public as soon as possible.

Here are a few cooperators: The Halpin-Niemeyer Lumber Company and the Caddo River Lumber Company, both of which have printed the slogan "Prevent Forest Fires - It Pays" on their envelopes; a third company, W.W. Stevenson, used this slogan "Our Schools Lose When Timber Burns" and the fourth - the Dierks Lumber Company publishes "The Cooperator" in which has appeared the following: "Fire Protection is 75% prevention and 25% getting to the fires while they are small."

- - - - - - -

Teaching of Forestry in Tennessee: The recent legislature embodied in its school law the requirement that forestry be taught in the public schools of the State. This particular Act was passed in 1921 and re-embodied in the recent school law passed by the legislature. In compliance with the requirements of this Act, the text book commission chose a text book to be taught in the 5th grade in the schools. It is estimated there are 67,0 fifth grade students in the State.

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)

Vol. IX, No. 49. Washington, D. C. December 7, 1925.

THE DENVER CONFERENCE AND OUTDOOR RECREATION

By L. F. Kneipp, Washington

At the time of the previous District Foresters' meeting that lusty infant "Outdoor Recreation" had neither developed its full lung power nor cut its eye teeth, but at the recent Denver conference it simply would not be ignored. However, the participants in the conference, with few exceptions, know a whole lot about infants, both official and personal, so they proceeded to plan out a worth-while future and lay down sound rules of conduct for its guidance and development which perhaps may be of interest to the field officers who have spent many a weary day and sat up many a long night guiding the newest member of the National Forest Activity Family through its teething period. Here is what the several committees had to say about it. Their suggestions seemed to meet with general approbation.

Committee 1 -

"The recreational use of the Forests is rapidly increasing and the handling of business which the presence of many travelers brings to us is making steadily increasing demands on our men, in many localities. This has acted in some instances to break into the priority program, and we must expect this to continue until we secure funds to employ men to relieve the ranger of the burden now imposed on him. We believe that in the past there has been a tendency to promote the use of our Forests for recreation to a degree that has imposed a caretaker's burden on us, heavier in some instances than we can shoulder with our present resources of time and funds. We are, however, of the opinion that the place of the National Forests in a national recreational program has been pretty well defined - at least sufficiently so as to make it incumbent on us to direct our thoughts and activities to handling the caretaker's job rather than to continue to sound the tocsin of advertisement.

In handling recreational use we seriously lack adequate funds to keep up with occupancy demands. Otherwise the handling of the water power, recreation, etc., is being largely met by simple planning and correlation with the timber and range resources."

Committee 2 -

"The general plans or policy statements for recreation by Districts and Forests required by the Lands Manual should be completed promptly. Intensive plans should be made only for those project areas where the recreational use has developed or promises to develop immediately to the point where such plans are essential for the handling of the business."

Committee 1 -

"There is a legitimate class of centralized service which relieves the forest staff of much routine and which therefore are probably permanent. We must distinguish between these services and those dealing directly with the forest soil, such as the planning and execution of fire, timber, grazing, recreation, and game activities.

We believe a partial solution of existing difficulties in handling recreational business is along the line of giving the use of suitable areas on a non-charge or non-profit basis to counties and municipalities under proper permit. A controlled policy of concessions for public camp grounds would also aid greatly in the settlement of the problem."

The last suggestion may perhaps be the solution of the present pressing problem of maintaining good sanitation and fire protective facilities within the National Forests. Here and there public agencies may be prepared to supervise, improve, and operate particular camp grounds either without cost or at nominal cost to the public. Private camps operated under special-use permits on a commercial basis may be the preferred means of making available to the traveling public the superior camp-ground facilities and services now so frequently desired or demanded but which neither the Federal Government nor other public agencies can very well furnish at public expense.

-------#-------

MY DISTRICT

By Ray Peck, Supervisor Grand Mesa

The Grand Mesa National Forest was created by Executive Order of December 24, 1892, under the name of the Battlement Mesa Forest Reserve.

It had an original area of 866,400 acres, but this has been reduced by eliminations to about 665,000 acres. The name Grand Mesa was substituted for Battlement in 1924, as the Grand Mesa is the principal topographical feature of the Forest, and popular opinion was strong for the change.

It goes without question that the Grand Mesa is the best little Forest in District 2. It annually supports around 50,000 head of cattle and horses, 15,000 head of sheep, Engelmann spruce, Alpine fir, and aspen constitute the timber resources and the latest estimate shows 750,000,000 board feet of spruce and fir. The timber receipts average around $2,500 per year, even though some facetious members of the District office have referred to the Forest as the "treeless Battlement."

The receipts for the last fiscal year were $30,284, or nearly five cents per acre.

The Grand Mesa stands at the head of the list when it comes to water use. Over four hundred reservoirs are covered by permits and easements, and the end is not in sight, as every year additional locations are made.

The Forest is popularly referred to as "a wonderland of lakes and mesas." Grand Mesa, the principal topographical feature, has an average elevation of 10,500 feet, and a top area of fifty-three square miles. Since a Forest Service road has been completed over this mountain, the tourist traffic has increased from 10,000 visitors to over 40,000, and still they come. The recreational use is fast becoming heavy. Permits have been issued for over two hundred summer home lots. The Masons and Odd Fellows have a large block each of lots which they sublease to members of the Orders. Three resort hotels have been built and a flourishing recreational business is being built up.

Mule deer, elk, and black and brown bear are quite numerous, with wild duck and dusky grouse plentiful in season. Thirty lakes and reservoirs containing trout and salmon are now accessible to automobiles, with as many more within short riding distances. The summer season is from June 15 to October 15, and auto parties have no business on the Grand Mesa before or after these dates.

A midwinter depth of ten feet of snow is not unusual at the Alexander Lake group, which contains the largest and best fishing lakes on the Forest.

The personnel consists of five rangers, a clerk, and a supervisor. In the old days there were ten rangers, clerk, stenographer, forest assistant, and supervisor.

The vouchers run around seven hundred per year, without fire vouchers. For the past three years the road building program has been heavy, but the main projects are now finished.

There have been no fires of consequence on the Forest for the past ten years, although it is badly fire scarred. The main reason why it has been possible to keep fires out is that practically no grass is allowed to go to waste and create a menace. People are well sold on fire prevention and the stockmen and other users have the protection of the Forest at heart and are constantly patrolling it during the dry season.

Grand Junction, on the Denver and Rio Grande Western Railroad, with a population of 11,000, is the headquarters town. It has a good Federal building, two rooms of which are allotted to the Service. The altitude is 4,600 feet and autos can be used the year around. It is twenty-two miles from the city to the nearest point on the Forest. The city is in the center of the Grand Valley reclamation project which, together with private projects, has reclaimed 70,000 acres of desert land upon which is now raised all common varieties of fruit and other produce.

The mean annual temperature of Grand Junction is 52°, and the mean precipitation 8.30 inches. The sun actually shines 70 per cent of the daylight hours. In a 34-year record, the highest temperature recorded is 105°, and the lowest -21°.

THE DENVER MEETING

(Out of consideration for the writer we withhold his name.)

The Forester's meeting held in Denver town was filled with pep and action. Here is what they found. Protect Forest resources, put morale on a higher plane. Is cost accounting working and the use of funds sane? Speed up the personnel, work out simple plans, make administration effective o'er all the Forest lands. Carry on the training, recruit the force with care, develop more technicians. They're needed everywhere. Bear down on allotments, cut out the paper work. Thorough use of time, emphasize! Never a job to shirk. Advance inspection methods, shove standards to the fore, revive the Service spirit as in the days of yore. Improve the administrator, hang bureaucracy on the rack. Are priorities slipping? If so, bring them back. Develop all objectives, Be patient, frank and square. Encourage progressive travel, Make decisions fair. When the sessions ended, and reports were read, all problems had been fully solved. What more could be said.

WASHINGTON NOTES

Cooperation with the States in Tree Planting: Section 4 of the Clarke-McNary law, providing for cooperation with the States in the procurement, production, and distribution of forest tree seeds and plants has proved to be a strong stimulus to the States in those activities. Agreements have already been executed to provide for this work with the following fourteen States: New Hampshire, Vermont, Connecticut, Pennsylvania, Maryland, Ohio, Indiana, Virginia, North Carolina, Kentucky, Louisiana, Wisconsin, Oregon, and California. In the case of four more States, Iowa, Washington, Idaho, and North Dakota, agreements are in the process of being executed, while in addition to the eighteen already named, eight others, Maine, Massachusetts, New York, Michigan, Alabama, Mississippi, Oklahoma, and South Dakota, will have qualified for cooperation, it is anticipated, before spring planting operations begin.

The figures for the eighteen States where the work is now lined up in detail show a total estimated expenditure for the present Federal fiscal year of $170,000, of which $139,140 will be the States' share and $30,860 that of the Federal Government. Each cooperating State receives an allotment of not to exceed $2,000.

It is probable that in addition to the twenty-eight States named above, other States will apply for cooperation before spring.

- - - - - - -

And Behold Their Fears were Justified: It seems that the first tremor of the earthquake of timber shortage was felt in March, 1626, when the Mayflower voyagers had been on these shores a matter of six years or so.

Mr. Charles W. Saunders of Seattle, Washington, representative to the State Legislature, after reading in "Ise - United States Forest Policy" an early reference to conservation, has unearthed through the Massachusetts Historical Society the following:

> "Orders agreed on at severall times for the general good of the Colony:
>
> "It was decreed by the Court held on the 29. of March Anno. 1626. That for the preventing of which inconveniences, as doe, and may befall the plantation by the want of timber, That no man of what condition soever sell or transport any maner of works or frames, for howses, planks, bords, shiping, shalops, boats, canoes, or what so ever may tende to the destruction of timber aforesaid; how little so ever the quantie be; without the consent, approbation, & liking of the Governour, & Counsell."

Mr. Saunders suggests that this date be given to the public as marking the tercentenary of conservation in this country.

Certainly in the Pilgrim fathers we have a prominent and well advertised group to tie the idea to. PR men, is this an opportunity?--H.R.K.

- - - - - - -

The Washington Section of the Society of American Foresters will hold a meeting at the Cosmos Club on the evening of December 8 for the discussion of "Outdoor Recreation in Forest Areas." Honorable C. W. Temple and Dr. Stephen T. Mather, Chief of the National Park Service, have been asked to give short talks on the subject. Mr. Paul G. Redington and Mr. Arthur C. Ringland, Executive Secretary of the National Conference on Outdoors and Recreation, have been asked to participate in the discussion.

* * *

FOREST PRODUCTS LABORATORY

Experiment Station Reports on Feeding Tests of Hydrolised Sawdust: A report has been received from the Massachusetts Agricultural Experiment Station in regard to the feeding tests on the cattle food prepared by the hydrolysis of sawdust. This report shows that the cattle food from eastern white pine was of better quality than that from Douglas fir, but both of them contained so much indigestible material that it seems unlikely that they would be successfully prepared and used for feeding cattle. Apparently the soluble sugars are completely assimilated by the cattle but the insoluble residue from the hydrolysis is digested to only a slight extent. It has been suggested to the Experiment Station that the cooperation be continued in testing out the soluble sugars alone. If all the sugars, both fermentable and unfermentable, are found valuable as a food, then the wood molasses would be able to compete with the ordinary sugar-cane molasses as a cattle food better than as raw material for making alcohol, since the wood sugars are about 65 per cent fermentable while the ordinary molasses sugars are about 85 per cent fermentable.

- - - - - - -

Wood Refuse Used in Pulp Furnish: Between two and three tons of pulp were made recently from wood waste by application of mild cooking and disintegration in the rod mill. The waste consisted chiefly of oak with some gum, elm, and cottonwood. A small proportion of cypress included was pulped by the semi-kraft process.

The pulp was substituted for the more expensive items of the furnish and about 22 tons of container board were made. In a mill scale demonstration the paper in which the refuse wood pulp represented about 10 per cent of the furnish was up to standard in all respects except when the cypress was used. This latter gave a paper of lower test than standard.

The encouraging results of this test will probably result in the installation of a plant to utilize about 30 tons of wood refuse a day.

* * *

DISTRICT 1 - NORTHERN DISTRICT

The Value of Minor Road Organization as a Reserve Agency for use in fire suppression has been well demonstrated during the past season on the Kaniksu, where a particularly bad fire situation was experienced.

The road crews, numbering altogether 102 men, during the fire season put in 46 days fighting fire. This organization up to October 15 handled all transportation on the Forest, or 1,001,262 pounds, of which over 400,000 pounds were for roads and an almost equal amount for fires. In addition, 560 men were taken to and from fires.

The hauling was done at a saving of $2,810.24 over local contract prices.

The clerk paid off 357 men, attended to orders on central purchase in the amount of $8,772.24, and prepared for fires alone 119 vouchers amounting to $27,722.57.

* * *

Winter Killing of Yellow Pine: As the result of an extremely sudden drop in temperature on December 15 last year from a point well above freezing to 20 to 25 degrees below zero, the yellow pine in District 1 was more or less damaged. The damage was particularly evident in the Clark Fork valley, the Kootenai River valley, the Bitterroot and parts of the Flathead Indian Reservation. Large areas of yellow pine turned absolutely brown in the spring, and it looked as though there might be quite a serious loss. Fortunately, recovery has been pretty general, the trees putting out new needles and shedding the old ones, so that at the present time most of the trees have a green appearance, although the foliage looks thin.

Junior Forester Bowman established nine plots in some of the worst damaged timber near Libby, which have been under observation all summer. On these plots he reports that 14 per cent of the reproduction under 4 inches d.b.h. is now dead and the same percentage of trees above 4 inches. These plots probably represent worse than the average of severely damaged stands. About five per cent loss would be nearer the average.

* * *

DISTRICT 2 - ROCKY MOUNTAIN DISTRICT

State Lines and National Forests: Some big questions of policy are being introduced in Colorado, where new and local demands for grazing privileges are attempting to supplant old permits established through long years of use by permittees from other States, particularly Wyoming, just over the line. The Wyoming permittees argue that they have built up their investments in accordance with their present permits and are entitled to protection. The Colorado people, who feel that sheep hold out some hope for rehabilitating ranches which have been in bad shape during the decline of the cattle industry, think that the Service should wipe out these former uses, at least control them to the extent necessary to enable the Colorado applicants to get permits as they want them.

This has special reference to the Routt Forest, in the valleys surrounding which there is a possibility of producing 100,000 tons of hay, an equivalent of 400,000 sheep on a winter feeding basis. The Forest itself supports only about 100,000 sheep.

The question we are asked to answer is whether the people now using the Forest, who have large investments of land in Wyoming and also make use of hundreds of thousands of acres of desert which cannot be used except in connection with summer permits in the mountains, are making a higher use of the forest area than attempting to build up a new industry connected with valley lands in Colorado, a large part of which have not heretofore competed for National Forest grazing privileges. Aside from the question of the preferences under the grazing regulations, this whole proposition is being forced upon the attention of the District in no small way, even to the extent that congressional representatives will be urged to have the regulations modified to meet such local situations. A pretty large factor in all this is the absorption of the ranges adjacent to the Forest reducing the opportunities to run stock as formerly outside the boundaries. We are even getting petitions from local cattle associations asking us to protect them in their former uses of outside ranges against the sheep interests which are endeavoring to get a general foothold in that country.

- - - - - - - -

The Pathe News informs us that the picture taken on the Pike last spring showing nursery and planting operations was released on December 6.

-------------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Arroyo Cutting in the Southwest: An interesting article by Mr. Kirk Bryan of the U. S. Geological Survey appeared in the October 16 number of Science. This article deals with the date and causes of channel trenching in the numerous streams and arroyos of the Southwest. The Forest Service has been investigating the causes of erosion and deep channels on its own accord and any information which can come from an outside authoritative source is always helpful. "The formation of arroyos," according to Mr. Bryan, "has had a large effect on the distribution of vegetation, and on the use of the valley floors for farming and grazing. The subject, therefore, is of interest to a number of groups, including geologists, botanists, engineers, agriculturalists, and grazing experts." He might well have also added, foresters. He continues: "Notable changes in population, including the abandonment of villages, have occurred and therefore the cutting of the arroyos is an outstanding event of interest to historians." The settlement of the time when channel erosion began is very largely corroborative of the findings of members of the Forest Service that these changes have taken place within the past generation. Of this event he states: "It is evident to all observers that the formation of the channel trenches is recent, as early settlers in the region can remember the time when many of these valley floods plains were intact and the floods spread widely. At that time, meadows, belts of cottonwood or willow trees, and even swamps characterized the floors of valleys that now support only scattered sage, greasewood, or mesquite."

- - - - - - -

New Fire Equipment: The newspapers recently carried a picture showing Charles Kellogg, the inventor, demonstrating a method of extinguishing a fire by tone vibrations. It is declared that he can put out a gas flame by whistling in a high pitch and smother a flame by drawing a violin bow over a tuning fork. Physicists are investigating his remarkable discovery which he recently demonstrated to Boston firemen. Possibly this is just another way of showing that it does not pay to get excited on a fire line, but to calm yourself by whistling. At any rate, no requisitions for tuning forks or violin bows will be honored before the next fire season.

-------+-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

A Bit of Appropriate Advertising: Supervisor Benedict has been putting up signs on the Sawtooth Forest this year. At one place along the main highway through the forest is a stretch of road known as the Massacre Grade. Accordingly, he put up a sign at the beginning of this stretch reading, "Massacre Grade." Just beyond it is another sign "Drown Camp Fires," followed closely by a third sign, "Murder Matches," and then a fourth "Kill Snipes." Thus the work of continued massacre is encouraged.

- - - - - - -

A Good Road: A laconic report on the Alder Creek Road on the Lemhi from Chief Construction Engineer Jesse H. Olsen, dated November 3, is about as follows:

"Approximately 1.2 miles of road completed and about three miles yet to be constructed. The expense per mile of the completed road was $172.75. The total cost of this road to date is about $1,930. One of our perennial and pertinacious kickers says the road is much too good for him, but that it is shore a good road for the d____d tourists and forest rangers, with their autos."

-------/-------

DISTRICT 5 - CALIFORNIA DISTRICT

District 5 Holds Referendum on the Camp Fire Permit Question: Because some of the field officers questioned the value of our camp fire permits as an educative influence and believed that the time devoted to issuance of permits might be better used in other lines of work, it was decided to get the views of all the field men on the subject and a questionnaire was sent out in October. The vote was as follows:

1. For continuance of camp fire permits, yes 165; no 16.

2. In favor of form of permit used in 1925, yes 54; no 97.

3. For a new and simplified form of permit, yes 105; no 57.

4. For a permit good for the season on all California National Forests rather than for a single trip on one or a group of Forests, yes 90; no 83.

(Note: The affirmative vote came from the North, while the Southerners wanted the single trip permit.)

It was also voted by a large majority that issuance of permits should not be exclusively handled by Forest officers, but authorized agencies outside our organization should continue to handle this business.

Now that the field has spoken in no uncertain terms, I may with propriety record my gratification over the outcome of the vote and my firm conviction that while camp fire permits are issued to but a small percentage of those who travel through National Forest areas they serve as an educational influence of no mean character. We cannot hope to largely reduce man-caused fires except through education, and the camp fire permit is a valuable means toward the attainment of this important aim.—P.G.R.

- - - - - - -

Record Land Exchange: The largest exchange transaction in D-5 to date was consummated on November 9, when the Interior Department accepted title to the 26,115 acres of cut-over land on the Shasta Forest that the McCloud River Lumber Company exchanged with the U. S. for an equal value in stumpage cut from forest land on the same Forest.

--------------

DISTRICT 6 - NORTH PACIFIC DISTRICT

"The Tragedy of Waste": The well-known American economist, Stuart Chase, has recently published a book especially interesting to conservationists. It is "The Tragedy of Waste" (MacMillan Company).

He is very critical of advertising. He pictures modern advertising as "industry reaches down into the ranks of the gainfully employed, picks up a half million odd workers and says to them, 'Now shout and furnish the paper, ink, and paint for shouting'." Mr. Chase gives an analysis of advertising as 90 per cent waste effort: "Two-thirds of all the effort expended in retail trade is wasted effort. Transportation is a bog of inefficiency - witness the tank car of linseed oil which traversed 179.5 miles of track in going from Undercliff, N. J., to Bayonne, N. J., 13.5 miles away, to keep its freight revenue in the clutches of one railroad, etc." - Foresters know the small part of the tree which is used.

Mr. Chase has something to say about natural resources (or "physical resources," as one was wont to say at Denver). He holds that the conservation movement is "still a living force, but somehow strangely shrunken from the great days when Roosevelt was its King Arthur and Pinchot its Launcelot."
--J.D.G.

- - - - - - -

Attention Cascade and Shasta Forests: The Cascade is supposed to be a heavily timbered Forest, yet they have to come to the Deschutes for good tunnel timbers. C. R. Potts, at Odell Lake on the Deschutes, is busily engaged in shipping about a million and a half feet of Douglas fir tunnel timbers down to tunnels on the Cascade side. How come Mac? Also, the railroad contractors are shipping lodgepole pine by the carload down to the Shasta Forest in California for use on the Weed section of the Natron Cut-off.--H.L.P.

- - - - - - -

DISTRICT 8 - ALASKA DISTRICT

The Voracious Porky: Much damage has been done in the hemlock and spruce stands of the Chugach Forest by the lowly porcupine. In the Prince William Sound district the damage is greatest, and here a very decided preference is shown for the western and mountain hemlock, the Sitka spruce being rarely attacked. Some stands show 75 per cent of the hemlocks to have butt rot, due invariably to old cut-faces caused by porcupines.

In the inland districts and along the Alaska railroad a striking change is noted. There the damage is largely confined to the spruces - Sitka, white, and black - while the hemlocks are passed up. Damage in the spruce stands is greatest in the upper parts of the bole and on the branches rather than at the base of the tree, as in the case of the hemlocks.

Recently a new indictment has been brought against this quilled denizen of the forest. During the past summer about 8,000 sawn hemlock crossties were shipped to the Alaska railroad from a mill on Prince William Sound and distributed along the line for replacements. The timber from which the ties were sawed had lain in salt water all the previous winter and had become well impregnated with brine. The porcupine is notoriously fond of salt, so he found the new ties extremely palatable. Large numbers of these ties bear mute evidence to the gastronomical proclivities of the "porky," and some have proved so edible that they had to be discarded.—H.J.L.

* * *

THE FORESTS OF INDIA

In "The Forests of India," E. P. Stebbing, Professor of Forestry at the University of Edinburgh, discusses the early development of conditions as influenced by man's activities in many parts of India. In addition to his description of conditions there he makes the following statement which is of interest in view of the present grazing situation in the Southwest:

"Whilst out at the Serbian Front in Macedonia in 1916, the writer was given the following curious and interesting reason for the treeless state of Macedonia by a French officer who had been connected with the French Forest Service. He said it was supposed to be due to an old Turkish law which assessed the amount of taxes to be paid by landowners according to the number of trees they had growing on their land. To diminish the amount of taxes to be paid the landlord cleared off all his trees and thus brought the hillsides to their present bare state. This would be very like the Turk. Its effect, however, combined with the unrestricted grazing of flocks and goats, has been to reduce the value of the agricultural land at the foot of the hills owing to the soil becoming covered up with rocks and debris, the result of erosion in the hills now unprotected by trees, and to render the climate hotter and more unhealthy."—E.N.M.

* * *

GIANT KAURI

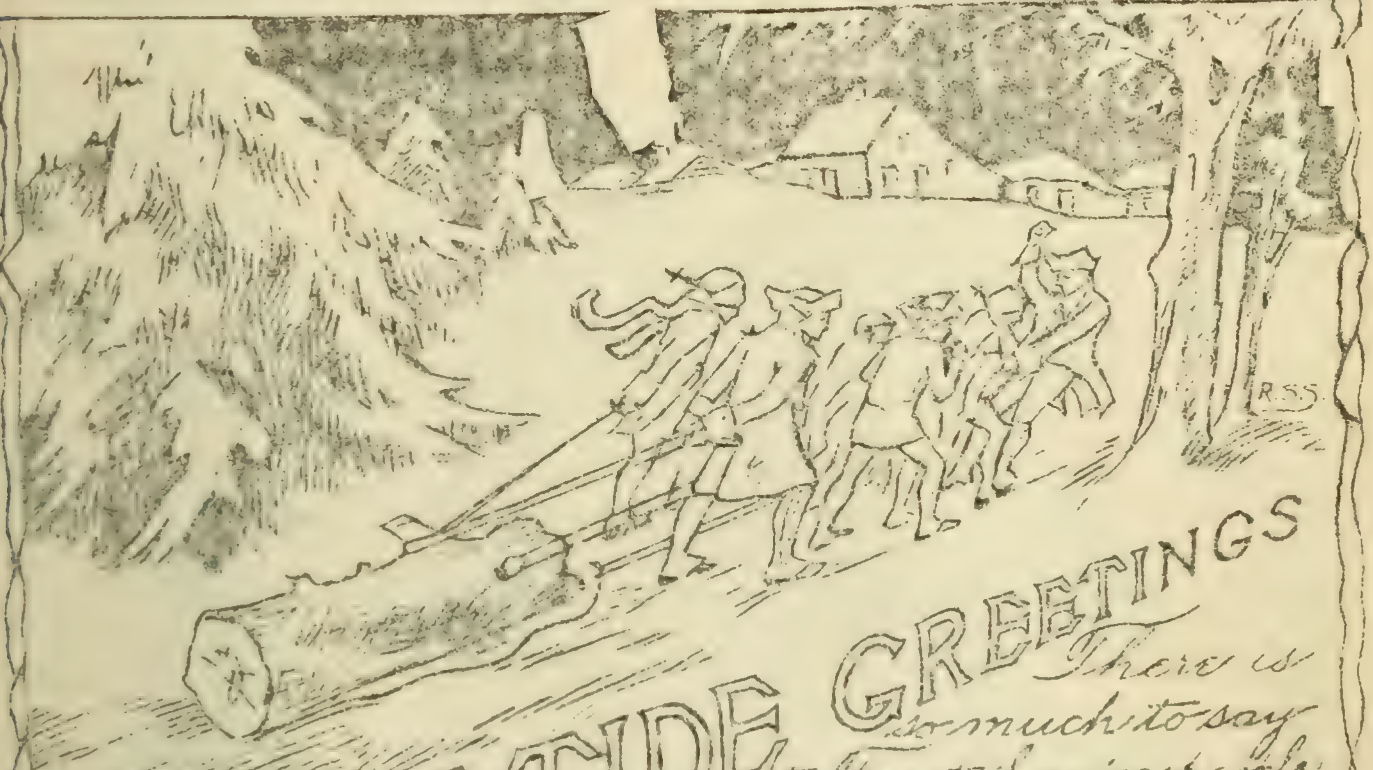
There is a very fine specimen of a Kauri tree growing on the high country east of the Toromui Stream, Waipoua State Forest.

This is a perfectly sound, healthy tree, with a breast-high girth of 49'6", a center girth of [illegible]', and [illegible] length of [illegible]'. With deductions for bark and one limb, this tree would still cut [illegible] board feet of timber. The measurements, even the center girth, were all actually taped, with the assistance of Mr. Peter [illegible], gum climber.—News letter of the State Forest Service, New Zealand.

* * *

Service Bulletin

U. S. FOREST SERVICE
(Contents Confidential)



YULETIDE GREETINGS

There is so much to say to Forest Service people at Christmas and the bureaucratic editor will allow me only fifty words! Let the editor cut this down if he dares. — Once a little tad, after grave study of my badge, called me "the Christmas tree man." We should all be happy enough to live up to that name. Christmas and green forests go together, and the Christmas spirit belongs in the Forest Service the year round.

God bless you all and make your Christmas a merry one. May your open fires and green little trees all be bright and cheerful from the satisfaction behind them of another year's work well done.

W. B. Greeley

Vol. IX, Nos. 50 & 51. Washington, D.C.
Dec. 14 and 21, 1925

REINDEER IN THE ROCKY MOUNTAINS

By Albert E. Straub, Jr., Arapaho

The season of the year is approaching when the thoughts of all children (between 6 and 60) turn to Christmas with its attendant myths, customs, and festivities. Chief among the former is that of Santa Claus and His six fairy reindeer. To the average child this is only a story and the reindeer is truly a mythical animal, but to the children in our community this is not the case, since by going a few miles to Roslyn Ranch they can see actual reindeer in surroundings as nearly approximating their native habitat as it is possible for money and ingenuity to devise.

This interesting experiment in wild life began ten years ago when six reindeer, two bucks and four does, were purchased at Nome, Alaska, for the sum of $1,047.00 and were brought by ship to Seattle, Washington, and thence by rail to Walden, Colorado. Various experiments in connection with feeding and watering were tried out on this herd. Moss was procured from Alaska at a cost of three sacks for $5.00, each sack weighing about 30 pounds delivered on the wharf at Seattle. The moss was moistened and one feeding per day was given to each animal. It was found that they would eat alfalfa if starved to it and in winter it was so difficult to secure the moss that they were fed entirely on alfalfa. In summer they would feed considerably on green grass. Salt, soda, and ammonia were mixed with the water the animals drank to make it as nearly like that they were accustomed to as possible.

For a time they seemed to thrive and the herd increased to nine, but they were suddenly stricken and four died in the space of two days. They were apparently well in the morning and just dropped dead before night. Post-mortem examinations showed that their lungs were infected. At the present time only two reindeer remain, one of the original does and her two-year old buck.

In Alaska the reindeer have to paw down through the snow for moss while here they stand all day waiting to be fed and it seems that this lack of exercise is one of the reasons they do not survive. It is thought that if [illegible] familiar had been brought with them he would have known the proper treatment for the animals, but the owners are convinced that reindeer culture in this part of the country is not likely to meet with much success.

TO BURN, OR NOT TO BURN

By Frank H. Lamb

(With apologies to Hamlet)

To burn, or not to burn; that is the question:
Whether 'tis better in the mind to suffer
The rules and laws of an outrageous custom,
Or to take arms against the forest's troubles,
And by opposing, end them. To fire, to burn;
To burn, perchance to destroy; ay, there's the rub;
For in that one slash burn what destruction may come,
When wind rises or humidity lowers,
Must give us pause; there's the respect
That makes calamity of our fine theories;
For who would chance the risk of a dry spring,
A late fall, or a summer's withering humidity,
The danger of escaped fire, the smoldering embers,
The blazing snags and the brands
That from East wind great holocausts make
When nature herself a far better way takes
With a green cover. Who would matches bear
To singe, to scorch and dry the woods,
But for the dread of some new idea
The way of nature without burning, from which method
No danger arises, puzzles the will
And makes us follow those customs we have
Than fly to others, good though they may be.
Thus custom does make arsonists of us all
And thus the native hue of forest green
Is sicklied o'er with the lurid pall of eternal smoke
And young forests of great promise and value
With annual fires their seedling comes to an end
And lose the power of reforestation.

MY DISTRICT

By J. M. Wyckoff, Tongass.

Ketchikan, the first port in Alaska, is the headquarters for the Ketchikan District ranger and also for the Supervisor.

This city is the largest in Alaska. It has grade and high schools, modern hotels and business blocks, a fine water system, telephone, electric light and power system, and altogether quite a modern city of about 6,000 population. More salmon are packed in Ketchikan than in any other one city in the world.

The ranger district comprises over two million acres of land and about an equal area of water - mostly salt. All travel is by boat and practically all forest activities are on, or quite near, the water front. Timber sales are the bulk of our work with special uses (including fox farms) and water power following in the order named. June 11 claims require considerable time. The activities are widely scattered and involve much travel - some of it not exactly smooth - by gas powered launches at the rate of about 7 miles per hour.

The climate is mild; never what you would call hot and seldom down to zero. But, Oh Boy, she do rain. The average rainfall is 150 inches. The fire hazard is nil, almost nix. And after it has rained for two or three weeks straight and you are in the dumps - wish you were as far away as a goose can fly in a month - there comes just one of those rare, fine days not found on any but Alaska calendars everybody breaks out in a broad smile, and it seems impossible to remember that it ever did rain. That's why we're here.

DISTRICT 1 - NORTHERN DISTRICT

Building Trails with Horse-drawn Equipment: The use of horse-drawn equipment on trail construction and maintenance is past the experimental stage in District 1. A satisfactory trail grader was perfected last spring and together with the Oliver plow No. 135 was supplied to a number of Forests for trial. At the close of the season, 52 graders had been manufactured and all but 3 or 4 of them had seen more or less use. The equipment was successfully used on 13 Forests, and 175 miles of graded trail were constructed in addition to a considerable amount of maintenance and reconstruction work. The graders equipped with a long blade were also used successfully on road work where steep side slopes were encountered.

The trail-grading equipment was successfully used in very rocky ground; on side slopes up to 100%; in larch, fir, hemlock, and white pine types, both green and burned; in heavy reproduction; heavy brush; and bear grass, which proved to be the most difficult of all.

Pulling either the plow or grader is a hard job for a horse, and it takes about a 1600-lb. or 1700-lb. animal to get away with it. He must be trained to pull slowly and steadily, and be accustomed to working on steep ground. The horse can also be used to great advantage to pull stumps and move logs on clearing work.

It was found that grading could be done for one-fifth to one-fourth of the cost of hand labor, and this saving often resulted in cutting the total trail cost as much as 50%.

From the Custer Cowboy: Two instances of stumps that have actually increased in diameter since cutting 15 or 20 years ago came to our notice this season. The stumps which were 1' to 2½' tall were in a houselog sized western yellow pine stand of slow growing trees. The tops of the stumps were weathered and checked. Their diameters were less than the diameter 2" below the top. Considerable curiosity was aroused. The increment borer showed a double or triple rate of growth after cutting compared to before cutting. Since the plant physiologists and ecologists tell us that the amount of growth depends considerably on the amount of water evaporated, the cut end of the stump must account for most of the water loss. The bark was as sound and healthy as that on the adjacent living trees. It is believed that root grafting between the close standing trees and the roots of the cut tree is the explanation.

DISTRICT 3 - SOUTHWESTERN DISTRICT

New Mexico State Land Exchange Looking Up: District Forester Pooler and Assistant District Forester [illegible] recently conferred with U. S. Senator Jones, Congressman Morrow, Governor Hannett, and State Land Commissioner Swope as to a possible consolidation of the State holdings by an exchange with the Federal Government. The State would give back to the Government its timbered lands within the National Forests, avoiding the expense of maintaining a forestry organization and receive in exchange therefor lands within or outside the National Forests valuable primarily for grazing and agriculture. The exchange would not be on an acre for acre basis, but on the basis of equal values, so that the State would receive several acres of grazing lands for one acre of timber land, and would then be in a position to receive a permanent income by lease of the grazing lands. The State now owns some [illegible] acres of timbered land scattered throughout forests in such a shape as to make it difficult of administration as separate units. Legislation will be sought in Congress and the State Legislature authorizing the proper authorities to enter into agreements for such exchanges. Precautions will be taken to see that all interests involved are fully protected.

- - - - - - -

Saw Milling Away from Water: Recently Santa Fe officers laid out a sale area on the Glorieta Unit with a 100% caliper estimate of marked timber and timber to be left. The area is about three miles north of Glorieta, without water and will be logged to a small gas mill set on the area. The volume which will be removed in the first compartment amounts to about 44[illegible] B. M., largely yellow pine with some Douglas and white fir over an area of 35 acres. This volume will be scaled to check the estimate; and the remaining compartment of the sale area will probably be sold separately in sales by estimate. We expect to continue the work of laying out small units to plan a series of cuts to sustain the allowed cut on the Pecos Working Circle until better roads are constructed into the timber of the Manzanares or Sebadilla cutting allotments. Following the sawtimber cut, the area will be gone over for props and stull materials which will leave a thrifty stand. The remainder of the sale area has recently been cut over for this class of material.

* * *

DISTRICT 5 - CALIFORNIA DISTRICT

Forest Planting on Lassen: October 21 to 27, 1925, might well be called "Forest Planting Week", as the entire District Ranger force of the Lassen spent that period in reforestation. Eight thousand 2-year old yellow pine seedlings shipped from the Forest Service nursery on the Columbia National Forest in Washington were set out. The planting site was a portion of the Antelope Mountain burn where destruction had been complete. The area had been logged twice, once prior to the fire of last year and then again this spring, to salvage the fire-killed timber. The soil was comparatively deep and the plentiful rains of this fall had put it in ideal condition.

There were six of us on the job and we split into two crews of three men each. In each crew one man dug the holes for two men planting. Deep holes were made with a spade and each tree was carefully set out and the soil compacted tightly around it. Each crew averaged 900 trees a day. The trees were spaced not less than ten feet apart, and when the job was completed a traverse of the area showed that approximately 15 acres had been covered. If good planting stock, ideal soil conditions on a good site, and careful planting are any indication, this experimental planting project should be successful. We are optimistic at any rate, since better than 70 per cent of the 1,000 trees set out a year ago on a less favorable site in the same locality are vigorous and healthy at the end of the first season.

In addition to the tree planting, an area of about ten acres was seed-spotted with a mixture of yellow and Jeffrey pine seed collected on the Lassen Lumber and Box Company sale area. On this job we divided into three crews of two men each. One man of each crew was equipped with a hoe and the other with a bucket of seed. Holes were dug not less than ten feet apart and from six to a dozen seed put into the hole, covered with soil and primed with the foot. A total of 3,861 spots were made in this way.

Whether these small planting projects prove successful or not, I believe the time spent was well worth while. The Lassen Rangers showed by their keen interest in the job that they were real foresters. All of us, I am sure, would like to see a week each year devoted to planting. Let's make it an annual institution!--A.E.W.

DISTRICT 6 - NORTH PACIFIC DISTRICT

New Sales Business: The Mount Emily Lumber Company was the successful bidder for the unit of 22,250,000 feet b. m. on the Umatilla at $2.75 a thousand for the pine, and the contract has been approved. The Gardinier Lumber Company bid in the timber on Clear Creek on the Whitman, 25 million feet at $3.25 per M. The contract with the Polson Logging Company for 113 million feet on the Olympic has been approved, as well as the contract for 253 million on the Mount Hood with the Wasco Pine Lumber Company. The prices obtained in the Polson sale are $3.50 for the spruce, cedar and Douglas fir, $2.00 for the pine, and $1.00 for the other species. The Shevlin-Hixon Company bid in the tract of 4[illegible] million feet on the Deschutes at [illegible] for the pine.

The receipts for the first quarter of the fiscal year were $278,000; more than has ever been received in any previous quarter, and over $100,000 in excess of last year for the same period.

- - - - - - -

Echoes of the Ranger Examination:

Ques. "Name four breeds of cattle used extensively on the open range."

Ans. "1. Cows. 2. Steers. 3. Sheep. 4. Goats."

PROFESSOR FILIBERT ROTH DEAD

As the SERVICE BULLETIN is being stenciled word comes of the death, on December 4, at Ann Arbor, Michigan, of Professor Roth, beloved and venerated teacher and valiant leader in the long fight for forestry in the United States. Only the bare fact that his life has reached its end is known at the Forest Service as yet, and time is not available to attempt any tribute to his memory or account of his lifetime of professional and public service. Every man who knew him as a teacher will feel his loss as that of a personal friend and kindly counselor who never lost interest in "his boys", and all who knew him, whether through direct contact or by reputation only (and that means all foresters) will keenly regret the passing of an outstanding and inspiring personality whose place in the profession was of foremost rank.

Service Bulletin

U. S. FOREST SERVICE

(Contents Confidential)

Vol. IX, No. 52. Washington, D. C. December 28, 1925.

CONFERENCE WITH THE GENERAL ACCOUNTING OFFICE REGARDING PROPOSED COLLECTION ACCOUNT REQUIREMENTS

By H. I. Loving, Washington

Considerable correspondence has recently passed between the offices of the Comptroller General and the Forester relative to the system employed by the Service in accounting for and reporting on receipts of various classes. Owing to the lack of intimate knowledge in the General Accounting Office of the scope and character of our work, our problems of administration, the decentralized nature of our organization and the necessity therefor, the matter of explaining and justifying our accounting practices on paper has seemingly been quite difficult. After six or eight months of rather voluminous correspondence the Assistant Comptroller General granted the Forester the privilege of a conference which was attended on behalf of the Service by Col. Greeley, Mr. Headley, Mr. Betts and the writer. We were rewarded with but partial success in so far as the immediate problems were concerned but from the broader standpoint and with particular reference to our future dealings with the Comptroller's office, there is little doubt but that the time and effort given to the conference was well worth while.

There were four main points of contention, viz., (1) contributions involving either the cooperative or forest reserve fund shall be covered by written contract and filed in the General Accounting Office at the time of issuance, (2) vouchers and pay rolls charged against cooperative funds and refund vouchers affecting the forest reserve fund shall bear reference to the individual contracts, (3) collection items shall be supported by individual detailed vouchers, as is at present the case concerning disbursement items, to be numbered serially and filed in the General Accounting Office at the time of issuance, and (4) deposits received from cooperators for telephone maintenance work on Service lines shall be deposited to Miscellaneous Receipts.

Under item numbered one above the conference was probably successfulin part so far as cooperative activities are concerned, but of course no definite statement can be issued in this respect before existing decisions of the Comptroller General are duly modified. It is expected that the continuance of informal contracts, and perhaps the waiving of written contracts altogether when in the opinion of the Director circumstances justify such action, will be countenanced at the Forest Products Laboratory. The same rule is expected to be applied to research work generally, conducted on the National Forests and elsewhere; also to other lines of National Forest cooperative undertakings where the procuring of written contracts would be clearly impracticable or without point, as in the case of many improvement activities, and also fire protection and brush burning in a lesser degree perhaps.

With respect to item numbered two we hope to be relieved of the requirement of noting cross references to the supporting contracts on vouchers involving research activities, fire protection, telephone maintenance, and other lines of cooperative endeavor where the collections are necessarily merged or where a number of depositors are concerned in a single activity or project.

Item numbered three was not stressed by the General Accounting Office at the conference, probably because the idea has not been as definitely developed as some of the other points. However, it plays an important part in the rather far-reaching program involving collections under contemplation by the Comptroller's office. In fact, the scheme of things as pictured by the auditing divisions would obviously be incomplete and only partially effective without it. The accounting officers have been quite active during the last two or three months by means of letters, committee meetings, and the like, in endeavoring to put some such vouchering arrangement into effect generally.

Concerning item numbered four it is believed that we were successful in convincing the representatives of the Comptroller's office that collections made by the Service for cooperative telephone maintenance are properly creditable to the Cooperative Fund. The accounting officers have apparently been laboring under the misapprehension that such payments were in the nature of rental, overlooking or being unaware of the fact that the Service extends free use of the lines to the settlers in return for their cooperation in a fire protection sense.

The obstacle of greatest importance encountered at the conference and which we were seemingly unable to overcome had to do with the filing of forest reserve fund agreements and permits in the General Accounting Office. That constitutes a rather material contract when fully analyzed. It means all timber sale contracts, grazing and special use permits, grazing applications, transfers of deposits, and contract amendments and modifications of every description and for all purposes. In brief, it involves in the neighborhood of 150,000 documents annually, all of which would have to be serially numbered in the Forest Service and in the case of transfers, modifications and the like, appropriate cross references endorsed thereon to the original documents. Grazing applications, and in some instances other papers, would have to be expressly copied for the purpose. It is a foregone conclusion also that the cutting reports and scale books would be required later to permit of a comprehensive audit of timber sale operations.

The cost of handling this additional work in the Forest Service would aggregate something like $50,000 annually, and perhaps several times that sum in the General Accounting Office. It appears, however, that the General Accounting Office has materially underestimated the volume of the work and that they do not contemplate any increase in force resulting, which would seemingly have the effect of subjecting the Forest Service to the additional work and expense with no compensating advantage accruing to the Government as a whole. This phase of the matter was brought out rather pointedly at the conference and was not defended by the Comptroller's office from the standpoint of practicability, but by reason of the statute requiring the filing of all Governmental contracts in the General Accounting Office. It is known as the Dockery Act and was enacted 31 years ago.

Another important consideration which the demands of the General Accounting Office suggest is the matter of duplication. The auditing and verification of collection transactions in the General Accounting Office would directly duplicate in part the work performed by the Service. The accounting check, however, would not go nearly as far as that of the Service, since the field examinations would not be duplicated. Clearly the Service is within its rights in vigorously opposing being subjected to this heavy expense.

How these matters will be ultimately determined is problematical at this time. Most likely it will be necessary for us to concede some of the contentions, but we hope to secure relief from certain of the contemplated requirements. In any event I feel that the conference will have a wholesome effect on our future dealings with the Comptroller General's office. Col. Greeley's remarks caused them to realize that they have perhaps a too meager knowledge of the Forest Service, our problems, etc., and that a general knowledge of such conditions is obviously necessary in order to enable them to intelligently audit Forest Service accounts. Since the conference there have been several visits to this office on the part of General Accounting Office auditors seeking more information relative to specific accounts before them for settlement.

MY DISTRICT

By Clyde D. Blake, Nezperce

The gross area of the Nezperce National Forest is approximately 1,705,150 acres. The Salmon Mountain section at the east and comprising 364,000 acres is administered by the Bitterroot National Forest.

Elevations vary from 1080 feet to 9487 feet, and this Forest includes some of the roughest mountainous sections of the United States, viz., the Seven Devils, some of the west slopes of the Bitterroot Mountains, and parts of the Salmon and Snake River drainages. The famous Florence, Buffalo Hump, Elk City, Orogrande, and Dixie mining districts are included within the boundaries. According to authorities on minerals these mining districts cover one of the richest undeveloped mineral sections in the Northwest. Development is awaiting better transportation facilities.

All of the rangers' headquarters are made accessible by mountain roads, sometimes known as wagon trails. Since these roads were built during the mining boom of sixty years ago, one should not be surprised that they follow the old game, Indian, and prospector trails.

The grazing capacity for the Forest is 55,500 sheep and 7,455 cattle and horses, with considerable winter and yearlong range.

The timber volume is estimated at 5,097,000,000 feet exceeded by only one other Forest in District One. The yellow pine volume of 1,057,000,000 feet is not exceeded by any other Forest in this District. This timber is largely inaccessible at the present time. While the timber sale business is conducted on a small scale at the present time, we have promises of exploitation on a large scale within the next decade.

Grangeville, the headquarters of the Forest Supervisor, is the county seat of Idaho County with a population of about 1,500. It is situated near the foot of the mountains and at the edge of one of the richest grain producing sections in the Northwest.

In 1924 the fire season began April 29 and ended October 28, but ordinarily it starts about May 20 and ends September 15. The 1925 fire records show that this Forest had 82 Class "A", 22 Class "B", and 3 Class "C" fires, a total of 107 fires. The area of National Forest land burned over was 150 acres, and the total [illegible] [illegible] cost was $3,547.00. Although we have a considerable tourist travel only three of this season's fires were man caused as compared with twenty-six for last season.

* * *

FOREST SERVICE LOSES A FRIEND

By W. B. Greeley

Bolling Arthur Johnson has passed on, having died suddenly on December 19 within twenty-four hours after his wife had expired. Editor Johnson and THE LUMBER WORLD REVIEW occupy a place in the lumber world that needs no defining from me. Suffice to say that in Mr. Johnson's passing the Forest Service loses a friend. Always independent, always fearless in following the course he believed to be right, and always progressive, Editor Johnson was a good friend of forestry and a bold champion of industrial reforestation and wood utilization. Many members of the Forest Service also knew him as the founder of the Concatenated Order of Hoo-Hoo. All of us will miss him, and many of us will miss him keenly.

* * *

WASHINGTON NOTES

The National Conference on Outdoor Recreation, which will meet with The President's Committee on Outdoor Recreation in Washington on January 20 and 21 has written Colonel Greeley that it will be very glad to take up at that time any projects which the Forest Service may want considered. The principal objects of the meeting are to consider Federal and State responsibilities in outdoor recreation; a national program for 1926 for the endorsement of the President's Committee; progress reports on Conference Surveys and Committees. Details of the meeting and the program will be given later.

* * *

At the December Family Meeting, the third of the current series, Mr. Collingwood, in a talk on "Forestry Extension and the Farmer's Woods," described in a most interesting and eloquent fashion how the extension forester gets his message over to farm owners. He briefly summarized the results obtained in the States that have given farm forestry the most attention, indicated some of the important ways in which the farm woods, shelterbelt and windbreak serve and enrich the farmer, and outlined how cooperation in farm forestry is being conducted under the authority of Section 5 of the Clarke-McNary Act. A part of Mr. Collingwood's address was illustrated by some very good still pictures.

* * *

DISTRICT 1 - NORTHERN DISTRICT

Lightning Fires are Tricky: The kind of entertainment which is dished out to some smoke chasers in North Idaho when a lightning storm strikes in an inaccessible territory is graphically pictured in the following story told by the ranger in one of these districts.

Late in the evening of July 12, the Smith Peak fireman returned from one fire, and the next morning he and the alternate started out to search for a fire which the latter had not been able to locate the day before. They traveled alone to cover more country. The Smith Peak man found the fire and put it out. On the way back he discovered another fire covering about 2½ acres on a steep slope. He had worked on the fire about an hour when the wind swept it into the crowns. He was nearly caught in the fire and had to spend over an hour under a rock in a small creek to keep from being burned.

In the meantime, the alternate had discovered another fire, and had it nearly controlled when the wind swept it into the crowns and it was gone. The alternate was nearly caught in this fire, and did lose his smoke chaser outfit and most of his clothing. The two fires burned together the same day, covering an area of several hundred acres. The fire was brought under control July 22, after burning over 1050 acres.

* * *

To Be or Not to Be Cut: Every once in a while, it shows up that others than pure conservationists and foresters are becoming concerned with the problem of whether National Forest stumpage should or should not be marketed during the high tide of private production in the West.

The following quotation appeared in a recent number of the "TIMBERMAN" of Portland, Oregon, and the writer, a prominent west-coast lumberman, is clearly of the opinion that the public timber should be held back until the private stumpage is at low ebb, possibly 40 years hence. He says:

"Every business consideration should dictate the retention of these (National) Forests until the lumber is needed in the markets of the country and until the returns to the local taxing bodies are needed to make up for the losses of taxes from private lands as they are cut."

* * *

DISTRICT 2 -- ROCKY MOUNTAIN DISTRICT

Planting in Minnesota: In the Minnesota planting operations of this fall, 755 acres were planted, at an average cost of $4.55 per acre. The usual spacing 8 x 8, was followed on all but 110 acres where 8 x 6 spacing was used. The latter spacing will hereafter be followed so as to insure having sufficient trees to form a stand despite losses that may occur.

The work was handicapped by a great deal of snow and cold weather which came unusually early in the season and finally necessitated closing down the operations with 100,000 trees unplanted. These trees were heeled in and will be planted next spring.

The majority of the planters consisted of Chippewa Indians who are always eager to accept employment with the Forest Service because they like this class of work; they get good food and are certain of securing their wages.

- - - - - - -

The Cattle Market is Looking Up. The early cattle market was good, followed by a slump about the middle of October, but it has since gained strength and is better than it has been since the high time during the war. Cattlemen really come in now with smiles on their faces and courage in their hearts. When yearling steers of good quality are bringing around 8 cents it means that they are netting close to $50 per head with only one winter's feed bill on them. Whether this is influenced by the good corn crop or whether the cycle in prices has really made the upward turn, we are not competent to say, but for those who stocked up at the low prices and are not overly incumbered with debt it begins to look like a harvest is in store for them within the next year.

--------#--------

DISTRICT 3 - SOUTHWESTERN DISTRICT

Why Save the Forests? One of the warm friends of the Forest Service and its work recently sent to a Coconinan a copy of an inscription found in the public parks of Spain, entitled "To a Wayfarer":

"Ye who pass by and would raise your hand against me, harken ere you harm me. I am heat of your hearth on the cold winter nights; the friendly shade screening you from the summer sun; and my fruits are refreshing draughts quenching your thirst as you journey on. I am the beam that holds your house, the board of your table, the bed on which you lie, and the timber that builds your boat. I am the handle of your hoe, the door of your homestead, the wood of your cradle, and the shell of your coffin. I am the bread of kindness and the flower of beauty. Ye who pass by, listen to my prayer. Harm me not."

- - - - - - -

Pinons Plentiful on the Datil Forest: Pinon pickers are reaping a rich harvest this year. About 4½ carloads are already in storage here with another 1½ cars easily in sight. The minimum carload is 40,000 pounds, and the price being paid is 15 cents per pound. One merchant has already paid out $27,000 for pinons and $400 more for new sacks to ship them in. The pinons all go to jobbers in New York and have to be recleaned and put in new sacks. Each sack when filled must weigh 100 pounds net. The retail price in New York is said to be about 30 cents per pound.

-------#-------

DISTRICT 4 - INTERMOUNTAIN DISTRICT

What A Prominent Stockman Had to Say at the Salt Lake Hearings: Probably 90 or 95 per cent, and I think even more, of the complaints against the forest people are that they do not have enough grass. That is the trouble with us here. And I believe that your committee should recommend to Congress that a law be passed that any applicant for a position on our National Forests should -

(a) Be, first, a rain maker.
(b) That he should have the inventive genius of an Edison.
(c) That he should possess the patience of all the saints.
(d) That he should possess the wisdom of Solomon.
(e) That he should have a hide like a rhinoceros.
(f) And, of course, you are expected to combine all these wonderful qualities at a salary of $125 a month.

- - - - - - - -

Predatory Animal Campaign in Full Swing: The predatory animal campaign of the Caribou Woolgrowers Association is in full swing. Large numbers of horses have been distributed over the ranges as bait material, and arsenic, specially processed according to the formula of the Biological Survey, is being used in the poison work. A levy of 3¢ per head on all permitted sheep was made by the Advisory Board of the Association, and the campaign is being vigorously prosecuted in an effort to reduce the heavy losses from coyotes which stockmen have had to bear during the past several years.

-------#-------

DISTRICT 5 - CALIFORNIA DISTRICT

Lava Beds National Monument: On November 21, 1925, the President signed a proclamation creating the Lava Beds National Monument.

This new National Monument covers about 46,500 acres, all lying immediately south of Tule Lake in the Modoc National Forest, with the exception of one small isolated piece of land which is located several miles northeast of the main monument.

Within the boundaries of the Lava Beds National Monument are some 135 known caves, together with numerous cinder cones, lava chimneys and other curious lava formations. Along the north side of the area is the extremely rough area centering in Captain Jack's stronghold, which was the principal battle field of the Modoc Indian War of 1872-73. Numerous old rock forts add to the interest of this country, while at other points are found very wonderful examples of old Indian hieroglyphics, both carved and painted.

Since almost the entire monument is within the boundaries of the Modoc National Forest, the Forest Service will continue to manage the area as heretofore.--L.A.B.

- - - - - - -

School Children Replace Trees Lost by Fire: A movement has been started by the Los Angeles Schools whereby their pupils will help in the reforestation of burned over lands. Acting under the directions of Susan M. Dorsey, Superintendent of the Los Angeles city schools, heads of all agricultural education departments will cooperate with the Conservation Association and Federal and county foresters in the development of a workable and effective reforestation program. They will also aid in furthering the plans assuring the setting aside of from 40 to 160 acres in the Los Angeles Forest, on lands burned over by recent forest fires, for the systematic planting of trees under the guidance of Federal and county forestry officials.

All tree stock to be used in the replanting of the burned away portions of forest land is to be raised in the 160 nurseries and garden plots in the Los Angeles school department.

-------#-------

DISTRICT 6 - NORTH PACIFIC DISTRICT

Northwest Leads in Lumber Cut: Washington first and Oregon second in lumber cut for 1924 is shown in detailed figures just received by the District Forester's office in Portland.

Washington's total lumber cut for 1924 was 6,257,343,000 feet, board measure, and is a 6.1 per cent decrease from 1923, while Oregon cut 3,665,547,000 feet which was 7.6 per cent less than her 1923 cut. These figures are based on data furnished to the Forest Service by lumbermen in these two States. In 1924 there were 469 mills in Washington reporting, which is 161 less than in 1923, and 398 in Oregon, which is 61 less than reported for 1923.

- - - - - - -

Interesting Series: An interesting series of illustrated articles is being used in the Oregon Journal of Portland dealing with the common trees of Oregon. These are written up in a popular manner and are intended primarily for the Girl Scouts, but are also of general interest. The author is Mrs. Thos. H. Sherrard, wife of Supervisor Sherrard of the Mount Hood Forest.

- - - - - - -

Eagle Creek. The following shows the number of visitors to the Eagle Creek Forest Camp on the Mount Hood Forest during the season May 15 to September 30, 1925:

May 15 to May 31	9,590
June	21,960
July	30,600
August	25,060
September	11,880
	99,090

Four thousand two hundred and seventy-two cars camped overnight on the auto camp grounds and 21,160 visitors stayed overnight. Only two arrests were made during the season and these were for failing to extinguish a camp fire.

--------+--------

* * * * * *

This world that we're a-livin' in
Is mighty hard to beat;
You git a thorn with every rose--
But ain't the roses sweet!
--F. L. Stanton.

1.9
F76S
Vol.9
1925
AUG 16

Form 172

U. S. DEPARTMENT OF AGRICULTURE
LIBRARY

NOTICE TO BORROWERS

Please return all books promptly after finishing your use of them, in order that they may be available for reference by other persons who need to use them.

Please do not lend to others the books and periodicals charged to you. Return them to the Library to be charged to the persons who wish them.

The mutilation, destruction, or theft of Library property is punishable by law. (20 Stat. 171, June 15, 1878.)

Lib. 9

8—7888